

THE MEDICAL NEWS.

A WEEKLY JOURNAL OF MEDICAL SCIENCE.

VOL. LII.

SATURDAY, MARCH 10, 1888.

No. 10.

ORIGINAL ARTICLES.

A CASE OF SÄNGER'S CÆSAREAN SECTION.

BY L. E. NEALE, M.D.,

DEMONSTRATOR OF OBSTETRICS IN THE UNIVERSITY OF MARYLAND, JUNIOR OBSTETRICIAN TO THE FREE LYING-IN HOSPITAL.

H. J. C., colored; low stature; aged twenty years; Maryland; not married; no miscarriages; primipara; entered the Free Lying-in Hospital of the University of Maryland during the last month of her first and only pregnancy complicated by hydramnios.

Labor began December 11, 1887, at 4 A. M.; membranes ruptured at 8 A. M. before full dilatation of the os; Bandl's (retraction) ring appeared at 10 A. M. and steadily developed; Tarnier's forceps (Prof. Wm. T. Howard's modification) applied with difficulty at 1 P. M. to head movable above superior strait in R. O. I. P.

The operation lasted for one hour and three minutes without result, save bruising the child's scalp, and left both mother and child in apparently good condition.

The entire escape of liquor amnii, firm uterine contraction and retraction over the child, and the well-marked Bandl's ring dividing the uterus into two upper and lower segments would have rendered an attempt to perform version by any method exceedingly dangerous, and its execution, I believe, practically impossible. The cause of dystocia was a generally contracted, non-rachitic pelvis.

A consultation between Profs. Miltenberger, Tiffany, Michael, and myself, resulted in favor of Cæsarean section, and against craniotomy on the living child. The woman was willing to abide by our decision, and, accordingly the Säger operation was performed at 6.15 P. M., Dec. 11, 1887. The operation lasted one hour and a half under gaslight; chloroform was the anæsthetic, and bichloride of mercury the antiseptic used.

Abdominal and uterine incision both in anterior median line. Placenta not in line of incision, but attached to the left, posteriorly. Child was readily extracted by feet, and with difficulty resuscitated. The uterus did not escape from the abdominal cavity until after removal of child, when it was small by contraction and retraction of its muscular walls.

After the first slight gush consequent upon opening the sinuses there was but little oozing from the uterine incision, which was entirely checked by placing an elastic ligature around the supravaginal cervix, which was not constricted prior to removal of the child.

The placenta was spontaneously expelled through the wound and the membranes gently removed by hand; the loss of blood during the entire operation being slight, indeed, not more than usually occurs in an ordinary case of natural labor.

Peritoneum dissected up and uterine wall resected along uterine incision; twenty-one deep silk sutures including serous and muscular coats, and twenty-nine superficial catgut seroso-serous Lembert sutures were used to close the uterine wound.

The uterine appendages were ligated and removed. Abdominal cavity washed out with warm water, elastic ligature removed from cervix, and the closure of the abdominal wound with a single layer of twenty-two deep silk sutures completed the operation. The intestines did not escape from the abdominal cavity, but during part of the time occupied in closing the uterine wound and removing the appendages the uterus did, and whenever thus exposed was constantly covered with warm, moist, antiseptic cloths.

The woman never rallied from the operation, and despite all stimulation died in forty-four hours of shock.

Post-mortem two hours after death revealed: intestines distended; slight deposits of fresh lymph here and there on intestines; a small cord-like band of omentum slightly adherent to right horn of uterus. Abdominal cavity dry, peritoneum for the most part normal, congested in places with slight lymph deposits. Uterine wound dark and sloughy. Not the slightest union of either uterine or abdominal incision. Heart and other organs perfectly normal.

Diagnosis.—Slight traumatic peritonitis; death from shock.

Diameters of pelvic brim ¹	{	antero-posterior	2¾ inches.
		transverse	4¾ "
		oblique	4¾ "

Diameters of foetal head ²	{	occipito-frontal	5½ "
		suboccipito-bregmatic	4¾ "
		occipito-mental	6 "
		fronto-mental	4 "
		biparietal	4¾ "
		bitemporal	3¾ "
Circumference ²	{	occipito-frontal	14¾ "
		suboccipito-bregmatic	13¾ "

Length	{	occipito-frontal	14¾ "
		suboccipito-bregmatic	13¾ "

Length . . . 19½ inches. Weight . . . 8 lbs. 14 oz.

The head was hard, thoroughly ossified, non-compressible, and as the above measurements and clinical

¹ These measurements were verified after death, when the abdomen was opened and the pelvic organs removed.

² These measurements were taken after birth, as I know of no means of measuring the foetal head before delivery.

history actually demonstrate, could not have been delivered, *per vias naturales*, by any conservative or non-destructive operation. The child's head and face were much contused by the forceps, a part of the left cheek subsequently sloughing out, and consequent pyæmia resulting, but he is now a fine thriving boy.

"Inasmuch as neither hemorrhage nor passage of lochia into the abdominal cavity occurred, the technique of the operation could not be blamed for the result."¹

Owing to my limited experience with this operation, and the amount of recent literature upon the subject, it would be pedantic in me to say more about the technique.

I need only mention the fact that the best authorities are now adopting the anterior median incision for both abdomen and uterus, and that silk and catgut, I believe, are superseding silver wire as suture material. In my case it was impossible to fold in the peritoneum over the uterine incision without resecting the muscularis, and accordingly this was done. The sutures were probably as many as four to the inch, and although the authorities recommend close suturing, I am now of the opinion that the sutures in this case were unnecessarily numerous.

Yet, were I asked, what one avoidable cause contributed more to the woman's death than another, or rather, what part of the treatment I considered most open to criticism, I should frankly answer: in my opinion it was the unnecessarily prolonged and severe high forceps operation. My only excuse for this was my desire to avoid, if possible, the more serious operations of craniotomy on the living child, or Cæsarean section. And just here, I honestly believe, lies the common error in the treatment of this class of cases, viz., too much preliminary or conservative tampering.

THE MEDICAL NEWS of December 10, 1887, says editorially: "The fact is established, that, to be successful, Cæsarean section should take precedence of the forceps, turning, and craniotomy, trials of which only waste valuable time, and add to the risk of the knife." But in these cases of minor degrees of pelvic contraction, I believe it is often practically impossible to foretell, without an actual fair trial, whether the less dangerous conservative operations offer no chance of delivery through the natural passages. Such being the case, we would naturally resort to pelvic mensuration for a satisfactory solution of the difficulty. But unfortunately, in the present state of our knowledge on this subject, pelvimetry on the living subject especially when *in partu*, is not always sufficiently practicable, accurate, or reliable, to enable us to determine, by that alone, in cases of minor or slight

contraction, between such momentous questions as the various comparatively mild conservative measures on the one hand, and craniotomy of the living child, or Cæsarean section on the other.

Ceteris paribus, I consider him a bold man, indeed, who would unhesitatingly cast the beam for life or death of the unborn human being merely by the addition or subtraction of a fourth or a third of an inch in pelvimetry. This is patent when we remember that there is only one diameter of the pelvic brim, the *conjugata vera*, that can be measured sometimes, not always, under certain favorable conditions, not under all, with any degree of positive or absolute accuracy.¹ But it is still more palpably true when we remember that we have no means of accurately measuring the head, or, indeed, any other part, of the unborn child, and this fact alone must necessarily invalidate, and that to a considerable extent, the practical importance of pelvimetry in the class of cases under consideration.

Neither is the resistance of the maternal soft parts, nor the compressibility of the fetal skull, identically the same in all cases. And would it be far amiss to say that the ability of the operator, the condition of the patient, and her surroundings may often more or less determine the nature, and particularly the result of the operation?

It is true that Michaelis and Barnes have each delivered through a pelvis of one and one-half inches antero-posterior diameter, and Dr. Osborn, in the celebrated case of Elizabeth Sherwood, through a three-quarter inch pelvis with success to the mother, but by a *destructive operation* on the child, and is it not possible that a Säger or other conservative operation might have extended success also to the child?

"Dr. Parry collected seventy cases of craniotomy in pelves measuring two and a half inches, and under. Of the seventy women, forty-three survived, and twenty-seven died, a maternal mortality of nearly forty per cent. The work was not done by tyros, but by celebrated obstetric surgeons."² If this occurred in pelves of two and a half inches, and under, with head presumably of normal size and resistance, is it not fair to suppose it might also have occurred in pelves of two and a half inches and a little over, say two and three-quarters (my case), with a head considerably above normal, both in point of size and resistance, as in the instance herein reported?

With reference to my own case, I consider it is a fair supposition when we bear in mind the important

¹ Abstract by E. H. G. from Säger's Article, Amer. Journ. of Obst., vol. xix. p. 222.

² I state this under the practical conviction that in minor degrees of pelvic contraction, external pelvic mensuration is exceedingly inaccurate, and wholly unreliable, whilst internal pelvic mensuration is possible only under certain favorable conditions, and is even then rarely absolutely accurate.

³ Lusk., ed. 1885, p. 490.

fact, that here the pelvis was contracted not alone in the antero-posterior diameter, but in all other diameters, and hence belonged to that more difficult and dangerous class of generally contracted pelvis.

Lusk tells us that of five women with generally contracted pelvis, in which the conjugate ranged from three to three and a quarter inches, and operated on by Naegéle, Heim, Spiegelberg, Lusk, and Kormann, all died as a consequence of delivery through the natural passages.¹ My case had a two and three-quarters inch conjugate.

Now let us turn from such results as these to the more pleasing picture of the modern or improved Cæsarean section.

THE MEDICAL NEWS of December 10, 1887, states that "the first fifty Säger-Cæsarean operations of continental Europe, which were completed in March, 1887, resulted in the saving of forty women out of fifty and forty-eight of their children!" With commendable boldness (for we need positive guides and rules to direct us in these matters) THE NEWS asserts the belief: "That the Säger operation promptly conducted is less dangerous to the woman than craniotomy, where the true conjugate of the pelvis is reduced to two and a half inches!"

But, I ask again, Can we always measure a pelvis so accurately as to decide this vital question? Should we extend this limit if the pelvis be *generally* contracted or the head *above normal* either in point of size or ossification. Is such a rule affected by the life or death of the child, the surrounding conditions, the skill of the operator, etc.? These questions I leave for others to answer.

That in general, with minor degrees of pelvic contraction, the Säger-Cæsarean section is a far more dangerous operation for the mother than craniotomy on the living child, I frankly admit; but I would ask, Is it fair or justifiable merely for this reason to disregard utterly the life of a viable and actually living human offspring by the performance of the latter operation when statistics prove there is a great possibility of saving both child and mother by the former procedure?

This I leave as an open question; but be it remembered, at the last International Medical Congress, 1887, it was the prevailing opinion among those who participated in the discussion on Cæsarean section, that the Säger operation should hold precedence over craniotomy on the living child! Lusk emphatically declared that, "the Cæsarean section was easy to do and he did not want to encourage trying craniotomy and then Cæsarean section, but should make the latter the operation of election."²

In THE MEDICAL NEWS of September 18, 1886, Dr. R. P. Harris published a table of all the Säger

operations that had been performed up to that time, with the result of saving 68 $\frac{8}{9}$ per cent. of women in all countries and 78 per cent. in Europe alone. THE NEWS of December 10, 1887, stated that "prior to 1887, the Säger cases of the United States were all fatal, because operated upon *in extremis*; but during this year there have been, in all, three of this class of operations, two of them in hospital, saving all of the women and two of their children.¹ We hope to see the Cæsarean operation in the United States differently conducted in the future, and women subjected to the knife in good season, so as to save both child and mother." In a note from Dr. Harris, of Philadelphia, dated December 14, 1887, he states: "There have been 8 Cæsarean operations, 6 of them Säger's, in the United States during the last nine months. All children alive, 2 soon died, 4 patients recovered. There have never been as many Cæsarean cases in the United States in one year before."

With regard to the case herein reported, I can frankly say, that it is only the result I regret, as I consider the operation to have been perfectly justifiable and plainly indicated, and in this opinion all the consultants fully agree.

319 W. MONUMENT STREET, BALTIMORE.

THE GALVANO-CAUTERY IN THE TREATMENT OF ENLARGED TONSILS.²

BY FRANK HAMILTON POTTER, M.D.,
LECTURER ON LARYNGOLOGY, MEDICAL DEPARTMENT, NIAGARA
UNIVERSITY, BUFFALO, N. Y.

In a note to the last International Medical Congress, M. De Saint-Germain says: "He who invents a surgical operation receives great credit. Recognition, at least, should be given him who substitutes for two operations two simple procedures, less dangerous, quite as effective, and more easy to perform."³ One of the procedures thus suggested was ignipuncture of the tonsils in the place of tonsillectomy. And while the advantage of this procedure is very evident, its claim to priority cannot be maintained. Some time before, Voltolini had advised cautery puncture of the tonsils, and Dr. S. Solis-Cohen had called attention to the same thing. Moreover, the paper of Dr. Charles H. Knight on the "Galvano-cautery in the Treatment of Hypertrophied Tonsils," read before the American Laryngological Association at its last meeting,⁴ and the discussion thereon showed that the minds of many surgeons had been turned in this direction. The

¹ There have been several other successful cases in the United States, one in our own city subsequent to this writing, as yet, I believe, unpublished.

² Read before the Medical Society of the State of New York, Feb. 7, 1888.

³ The N. Y. Medical Record, Sept. 10, 1887.

⁴ The N. Y. Medical Journal, Sept. 24, 1887.

¹ Ed. 1885, p. 492.

² Med. Record, September 10, 1887, p. 355.

writer himself had been working upon this subject, and the opinions of the various observers above referred to, served on the whole to confirm his views and encouraged him to persevere in his investigations. The purpose of this paper is to call attention again to the use of the galvano-cautery in the treatment of enlarged tonsils, and to present, in a general way, some suggestions founded on a year's experience with it.

The subject divides itself into two parts:

1. The method of procedure; and 2. A consideration of some of the objections that have been raised to the use of the galvano-cautery for the relief of this condition of the tonsils.

We can apply this method of treatment in two ways, either with the galvano-caustic snare, or with the sharp-pointed electrode. The latter is, in the writer's opinion, to be preferred, though for the sake of completeness a description of the former is given. In using the caustic snare the platinum wire must be adjusted closely to the tonsil, care being taken not to include as much of the organ as it is proper to remove. This is because the heated wire will cauterize that part of the organ that remains, causing it to contract to a considerable degree. Red heat is the best, and the wire must be tightened only during the passage of the current, which must be allowed to flow intermittently. In this way the wire plows slowly through the tonsil, little by little, removing a sufficiently large part of it, and leaving the stump well cauterized. The time required depends upon the size of the tonsil and the dexterity of the operator, but the current must be interrupted several times, as the best results are obtained when the operation is performed with deliberation. There is very little after-treatment, the wound healing readily under alkaline washes. It is important not to allow the wire when heated to come in contact with the pillars of the fauces or other parts, as these have more sensation than the tonsils, and if burned cause a good deal of pain. No. 30 platinum wire has been found to be the best, as, to borrow the words of Dr. Knight, it is readily heated, easily manipulated, and cuts the tissues with great facility. The advantage of the caustic snare over cautery puncture is due to the fact that it is more rapid, but, on the other hand, it is more painful and less easily managed, and we have, for these reasons, come to prefer the latter. Its application is simple. A sharp-pointed electrode, under red heat, is plunged deeply into the tonsil, say to the depth of three-eighths of an inch, held there for a moment and then withdrawn. Generally a second puncture can be made at the same sitting. Four to seven days must then be allowed to elapse, and the operation repeated. The average number of sittings required is five, but in exceptional cases with large tonsils this may be increased to eight or ten. This treat-

ment causes but little pain, and none at all under preliminary applications of cocaine in the strength of four to eight per cent. The after-treatment consists simply in the use of alkaline gargles. The tonsil is finally contracted to its normal size and the symptoms dependent upon its enlargement entirely relieved.

It has been urged against this treatment that it cannot be used in all cases; that many people have an aversion to being burned; that it is impracticable in young children without general anaesthesia; and that, at the best, it is slow and tedious.

Now, we do not know any treatment of any disease that can be used in all cases; and we have found many people who have had a strong aversion to the use of any cutting instrument upon them. There may be, and are some conditions which will preclude the use of the galvano-cautery in the treatment of enlarged tonsils. One of these conditions may be an aversion to being burned. Certainly in this case we should not only not urge but advise against its employment. The noise of the burning tissues and the unpleasant odor produced are so disagreeable to some patients that they will not submit to this treatment. There is no other course open to us under these circumstances but to employ some other method. In regard to the necessity of using general anaesthesia with young children, we find this is often required in any procedure connected with the removal of their tonsils, and when this is necessary the operation should be completed at one sitting and that method employed which will accomplish this most readily. In most instances, however, we believe that kindness and patience will lead even young children to submit to cautery puncture, especially if they can be made to appreciate that you will cause them no pain in the application you desire to make.

The objection that this method is slow and tedious as compared with amygdalotomy is true, but before we decide in favor of the latter we ought to consider that the increase in the rapidity of the operation is attended with an increase of the danger. At any rate, it is pertinent to remark that an operation done well is done soon enough, and that that method should always be selected which increases the safety of the patient.

The danger of any cutting operation upon the tonsils, whether with the bistoury or with the amygdalotome, has to do with the hemorrhage. Opinions differ very much as to the degree of danger from hemorrhage after these operations. It may be said, however, though serious danger is not frequent, yet the liability to a fatal result from this cause is always present. Reports of cases of alarming and obstinate hemorrhage after tonsillotomy are not so rare as to encourage the belief that the operation is a simple one, and free from danger. Within our

own State, during the last year, such skilful operators as Dr. H. B. Sands¹ and Dr. Clinton Wagner² have reported such cases. So serious were these that it is conceivable that a slight variation in the circumstances attending them might have led to a fatal termination. Indeed, a fatal result is not so very uncommon. At the International Laryngological Congresses a number of deaths from this cause have been reported, and such men as Schnitzler, of Vienna, Schmidt, of Frankfort, and Michel, of Cologne, are on record as saying that they never under any circumstances cut an enlarged tonsil. And Dr. Harrison Allen³ may be quoted as saying that he has given up for a long time the use of the bistoury and tonsillotome, on account of the bleeding attending them. He belongs to the class of timid operators in these cases, and thinks it would be very little consolation to a patient whose carotid required ligation to be told that this was a very rare accident. Elsberg, at the American Laryngological Association, in 1881, reported eleven thousand cases of tonsillotomy without a fatal result; but in two cases it was necessary to tie the carotid; in several the hemorrhage was so serious as to blanch not only the patient but also the cheeks of the operator, and in ten cases it was so vigorous as to require the most energetic treatment before it could be controlled.

Now, it seems to us that one fatal case would more than balance any number of successful cases, and while we do not wish to appear as an alarmist, we hold that any method tending to remove even the rare danger of fatal hemorrhage should be adopted. Such a method, we believe, has been found in the use of the galvano-cautery, as already indicated.

Some discussion has taken place as to whether cautery puncture is efficient in the case of a hyperplastic tonsil, it being admitted that in the condition of a simple hypertrophy this method has produced good results. The title, "enlarged tonsils," was purposely selected to indicate the writer's opinion on this subject. Wherever lately he has found the tonsils increased in size to a degree warranting an operation, he has employed the method of cautery puncture, and with uniformly good results. Of course, as the organs are not removed by this operation, it is impossible to tell just their pathological condition, but there is good reason to believe that whenever the tonsils are enlarged the application of the galvano-cautery as described will be sufficient for their reduction.

One more suggestion: the function of the tonsils is not yet determined. Whether they have a blood-forming function, or merely absorb from the saliva certain ingredients that would otherwise be wasted,

or whether they are invested with both these functions, it is certainly conservative and wise not to destroy them entirely, but rather to preserve them so that, if even to a slight degree, their purpose in the economy may be performed.

The advantages of treating enlarged tonsils by the galvano-cautery, especially by the method known as cautery-puncture, may be formulated as follows:

1. It is safe.
2. It is easily managed.
3. It is painless.
4. Though slow it is sure, and preserves rather than destroys organs which it is rash to say are of no use whatever in the economy.

273 FRANKLIN STREET.

APEX EXPANSION VERSUS PURE AIR IN PULMONARY CONSUMPTION.¹

BY THOMAS J. MAYES, M.D.,
PROFESSOR OF DISEASES OF THE CHEST AT THE
PHILADELPHIA POLYCLINIC.

NEXT to the tubercle bacillus, impure air stands most prominent among the many agencies which have been assigned as the causes of pulmonary consumption. Innumerable plans and methods have been devised and proposed for improving the ventilation of our dwellings, hospitals, and workshops; volumes upon volumes have been written on the ill effects of breathing vitiated air; and the immaculate freshness of the country and mountain air has come to be universally regarded as a certain guarantee against pulmonary consumption. These, like many other popular notions, contain a germ of truth, but actually are delusive, inasmuch as they exaggerate the effects of a small evil, and afford a false sense of security against the real source of danger in the production of this disease. This we shall endeavor to show in the following pages.

At the very outset we desire to be well understood that we do not in the least underrate the value of fresh, wholesome air in the prevention and treatment of pulmonary consumption, and while it is probably true that on the whole country people enjoy greater immunity from this disease than city people—though this is not proven on account of a lack of adequate statistics—yet we are convinced that the purity of the atmosphere plays a very small part in bringing about this probable result. If we are permitted to make a homely, hypothetical proposition, we will state that if two individuals who require the same quantity of air, and who are equally well off so far as heredity, food, clothing, warmth, comfort, etc., are concerned, were both enjoined to maintain a sedentary and a stooped position of their bodies for an unlimited period, one inside of a house and the other outside in the open air, we have no reason for

¹ THE MEDICAL NEWS, May 28, 1887.

² New York Medical Journal, April 16, 1887.

³ Trans. American Laryngological Assoc., 1881, p. 145.

¹ Read before the Philadelphia County Medical Society, February 22, 1888.

believing that the one inside will fall a victim to this disease sooner than the one on the outside.

If it were true that this disease is the result of breathing a vitiated and impure atmosphere, how can we account for the fact that the inhabitants of Iceland, Greenland, Lapland, and of other cold countries of the north, who live in dwellings which are notoriously wanting in ventilation, are practically exempt from this disease? Of the Icelanders, Mr. Warnford Lock,¹ who is very familiar with these people and who speaks their language, says that their life is

"one long exposure to the elements, and during the night they live in dwellings devoid of ventilation, and which, if not buried beneath the earth, are built of turf and often become grass-grown, a very bad feature being the excessive stuffiness of the common living and sleeping room, where, owing to the absence of fires, the greatest possible crowding and plugging are necessary in order to maintain a tolerable degree of warmth."

And yet Dr. Cullimore,² from whose work the above quotation is taken, says (p. 73)

"that consumption in Iceland is never indigenous, but is always, when it does occur, imported from abroad and but seldom extends to the second native generation."

On the other hand, it may be stated that the people of the tropical regions of the globe who enjoy an uninterrupted revelling in pure, fresh air, both day and night, winter and summer, are by no means free from pulmonary consumption. The only difference, so far as the physical life of these two classes of people is concerned, is that the warm climate, which produces such a luxurious atmosphere, also creates a tendency to physiological sluggishness and an indisposition toward physical exertion among its inhabitants; while the people of the cold and rigorous north are compelled to maintain the warmth and vitality of their bodies in great part, by day, through physical exercise, of which their occupations of hunting, fishing, herding, etc., give them a full share. It is also well known that miners and laborers employed in coal mines, who continually respire an atmosphere which is not only loaded with impurities, but is damp and musty, suffer but very little from this disease.

One fact which lends color to the belief that pure air is such an essential element in limiting the ravages of consumption, is that those who occupy elevated or mountainous regions are less liable to this disease than those who live near the sea level. Thus Fuchs shows from extensive data that "at Marseilles, on the seaboard, the mortality from this disease is 25 per cent.; at Oldenburgh, eighty feet

above the level of the sea, it is 30 per cent.; at Hamburg, forty-eight feet above the sea, it is 23 per cent.; while at Eschevege, four hundred and ninety-six feet above the sea level, it is only 12 per cent.; and at Brotterode, eighteen hundred feet above the sea, it is but 0.9 per cent."

Carrying this line of observation further, it appears very probable that consumption is almost unknown among any native people who live more than 6000 feet above the level of the sea.

Now that which concerns us here chiefly is the reason why mountain climates are, as a rule, so free from pulmonary consumption. Is it because the atmosphere is pure and free from septic germs? This is hardly possible, for if it were true that the aseptic condition of the air plays any prominent part, why should the Icelanders, who nightly reek in a most filthy atmosphere; or the dwellers along the Nile, who, according to Mr. B. Phillips, live "in huts where the pure air has neither ingress nor egress, except through a small hole near the ground;" or the coal miners, who continuously respire a foul and poisonous atmosphere, all be comparatively free from this disease? Is it due to the general absence of humidity? We think not, for Bogota, the capital of the United States of Colombia, located on the Andes, near the equator, at an elevation of over 9000 feet, is said to be entirely exempt from this disease, although dampness prevails to quite a large extent. We think there is much reason for believing that it is principally, if not entirely, on account of the attenuated condition of the atmosphere, and shall, therefore, at once proceed to consider the physiological influence of high altitudes on the human body.

It is estimated by Dr. Denison that at an elevation of 6000 feet the surface of the body is relieved of nearly 7000 pounds pressure. When such an enormous weight is lifted from the body it is quite evident that its interior must also be markedly affected—the pulse is accelerated from fifteen to twenty beats per minute; the respiration is quickened from ten to fifteen breaths per minute; evaporation from the skin and lungs is increased, and the amount of urine is diminished. These are some of the immediate effects. Protracted residence in such a high region enlarges the chest capacity. The Quichua Indians, who dwell on the elevated table lands of Peru, have enormous-sized chests, containing capacious lungs with large air cells. The Mexican Indians possess chests which are out of proportion to the sizes of the individuals. Dr. Denison says that children born in the Rocky Mountains have chests of unusually large capacity, and M. Jaccoud states that at St. Moritz the respirations are not only more frequent, but fuller.

The reason why the number of respirations increase while ascending a high elevation becomes

¹ The Home of the Eddas. S. Low, 1879.

² Consumption as a Contagious Disease. Ballière, Tindal & Cox, 1880.

clear when we take into consideration the fact that at the sea level a cubic foot of dry air contains about 130 grains of oxygen, while at an elevation of 6000 feet it only contains about 106 grains—nearly twenty-five per cent. less than the body is accustomed to breathe at or near the seaboard—therefore, in order to supply the wanted amount of oxygen to the body, the respirations must either increase in number or in extent. From all accounts it is very probable that respiration becomes accelerated only during the early period of exposure to such an attenuated atmosphere, and that subsequently this function becomes slow again because the air penetrates more deeply and completely into lung tissue but little utilized before.

That man does not suffer under such a deprivation of oxygen is evident from what we know to be true of his lung capacity under ordinary conditions of life. Prof. Mosso has recently proven experimentally that man possesses a lung capacity which is nearly one-fourth larger than the actual necessities of life at the sea level demand; hence by employing his whole lung capacity he can extract a sufficient amount of oxygen from this attenuated atmosphere without difficulty. And herein lies the secret why so many consumptives, and others with weak lungs, derive such a great benefit when they resort to a mountain climate. It may be trite, but it is nevertheless true, that all consumption practically begins at the lung apices, because these parts are habitually inactive. They are inactive because, in the first place, the bronchial tubes are so arranged that they conduct the air with greater facility to the base than to the apex of a lung, and, in the second place, because the lung is larger than necessary; hence the base, which is filled most readily, is filled first, and the apex, if at all, toward the end of inspiration. The apices, therefore, become the superfluous parts of the respiratory organs. It is quite different, however, when the body is immersed in a highly attenuated atmosphere. Every available space in the chest is now brought into requisition to furnish the needed amount of oxygen, the apices are called out of their lethargic state, and the alveoli are inflated, and if the infiltrated areas are not dispersed the surrounding alveoli are kept permeable, and so the disease is, at least, limited and called into abeyance.

This statement is corroborated by those who have had large experience in the climatic treatment of pulmonary consumption. Thus Ruedi reports¹ "that of 600 consumptives under his care at Davos, expansion of the thorax took place in no less than 584." Dr. Denison says² "the increased circumference of the chests of consumptives after undergoing the high-altitude treatment is shown in many

of Prof. Weber's, as well as in my own, cases." Dr. Lindsay, in the work already quoted, states (p. 32) that

"Davos does not cure consumption by its sunshine, or the purity and dryness of its air (although these conditions undoubtedly cooperate in the beneficial effect), but mainly by the rarefaction of its air, which stimulates respiratory activity, promotes healthy expansion and soundness of tissue in the lungs, and hence aids them to resist the spread of morbid deposits."

So much, then, for the immunity which is afforded by mountain climates; but that which is of still greater interest to us is the fact that those who follow active employment are less liable to this disease than those who pursue sedentary and quiet occupations. Thus M. Lombard found

"in Paris, Geneva, Vienna, and Hamburg, that there are a greater number of persons leading a sedentary life afflicted with phthisis than of those leading an active life, in the proportion of 141 to 89. In the Brompton Hospital the relative liability was found to be 63 per cent. of indoor males to 30 per cent. of outdoor, and all the consumptive females followed indoor occupations. Dr. Guy found, in the close workshops of a printing establishment, the compositors, whose employment is sedentary, fell victims to phthisis in the proportion of 44 per cent. to 31½ per cent. of the pressmen, who, although breathing the same air and in every other respect subject to the same habits of life, differ only in the active bodily exercise which the press imposes on them; and among the same class of operatives the deaths from the same cause did not exceed 25 per cent. in those who use exercise in the open air." (Ansell.)

There can be no doubt, too, that those of our Indians who are still allowed to obey their roaming instincts of hunting and of fishing, or to follow their vocation of farming, which a number have, owe their immunity from this disease, which we know they possess, in great part, if not entirely, to the physical exercise which they obtain in this manner; while those who are subjected to the idle and improvident reservation life die rapidly from it, principally because they are deprived of their wonted exercise. This is of special interest to us here, because it has such a direct bearing on the main point at issue. Some of the former class of Indians, like the Pimas, for example, who may be called wild, although they are agricultural in their habits, are living in half underground huts with very little or no ventilation, yet, from all accounts, consumption is an exceedingly rare disease among them.

Thus far we have seen that, on the whole, those who occupy elevated habitations, as well as those who follow active exercise, are more exempt from the disease under consideration than those who live near the sea level or those who live a life of quietude.

¹ Climatic Treatment of Consumption. By Dr. J. A. Lindsay, p. 62.

² Rocky Mountain Health Resorts, p. 85.

In connection with this we will consider the influence of physical exercise on the lungs, and endeavor to ascertain how it affords protection against consumption. During physical exercise more oxygen is consumed by the muscles, and more blood and air circulate through the lungs than during rest. Just how much more air enters the lungs during activity than during rest can easily be estimated when it is known that during inactivity a man breathes 480 cubic inches of air per minute, and while walking at the rate of four miles per hour, or while tramping a treadmill, he breathes 2400 cubic inches, and if he walks at the rate of six miles an hour he takes in 3260 cubic inches of air per minute. The difference between 480 and 2400 cubic inches of air-capacity shows that during the exercise of walking even at the rate of four miles per hour, five times more lung surface is thrown into action than during rest; which proves very conclusively that bodily activity possesses a marked influence in determining the degree of lung expansion, and that under such conditions regions of lung will be called into service which are never fully reached by air during bodily rest.

This is in entire accord with what practically exists. Thus Darwin¹ says that the lungs in improved breeds of cattle, which naturally take little exercise and are domiciled much of the time, "are found to be considerably reduced in size when compared with those possessed by animals having perfect liberty," and Waldenburgh² states that the vital lung capacity is smallest in persons who lead sedentary lives, such as professional men, students, clerks, etc., and is greatest in those who follow active outdoor occupations, such as sailors, recruits, etc. Chasagne and Dally, in their joint work on the *Influence of Gymnastics on the Development of Man*, report that at the Military School of Gymnastics of Joinville-le-Pont, out of four hundred and one individuals subjected to gymnastic exercises for five months, three hundred and seven, or seventy-six per cent., showed an increase on an average of over an inch in the mammary circumference of the thorax. According to Dr. Abel, seventy-five per cent. of those who practise gymnastics in Germany experience an increase in the measurements of the chest. There can be no doubt that the principal reason why consumption increases with the advent of civilization is that everything in civilized life tends to produce physical inertia in our bodies. Walking is substituted by riding in carriages and in cars; manual labor is in great part replaced by machinery; active outdoor labor is supplemented by quiet indoor occupations—in fact, everything which tends to produce physical activity is exchanged for

a life of ease and indolence. The American Indian, as has already been stated, is known to be comparatively free from the disease in his wild state, but as soon as he acquires the habits and customs of civilized life he becomes its victim.

In converging the two lines of reasoning which have been thus far developed in this paper, it appears that the immunity from consumption which is established by residing in a mountain climate, and by practising physical exercise, is chiefly brought about in the same manner, viz., by increasing the capacity of the chest. And from a practical point of view it is of some moment to know whether the former has more weight in bringing about such restoration than the latter—or, in other words, whether those who live in high altitudes continue to enjoy this exemption if they refrain from active physical exercise and take up a sedentary occupation in such regions. From recent inquiry into this subject, we are inclined to believe, at least so far as the Rocky Mountains climate is concerned, that as soon as outdoor pursuits are exchanged for sedentary indoor occupations, consumption increases in frequency. It is, therefore, quite certain that physiological exercise plays a more important part in the problem of the prevention and cure of consumption than a residence in an elevated or mountain climate, however valuable the latter may be. We have, moreover, good reason for believing that the immunity which is established through physical exercise is more permanent in character than that which is secured through residing in a mountain climate, for it is a common observation that consumptives flourish only in high altitudes so long as they remain; a protracted stay at the sea level is always regarded as perilous. Such consequences are in perfect harmony with what one would be led to apprehend from a knowledge of the physiological factors involved in the restoration of the patient. These factors are entirely local, and their influence does not extend very far beyond their immediate dominion. This objection does not hold good in regard to physical exercise. One thing may be said, however, in favor of mountain climates which is not true of physical exercise, viz., it produces its beneficial results without conscious effort on the part of the individual; therefore, when the remedy is viewed from a standpoint of ease and comfort, and not from one of permanence, the mountain climate is to be preferred.

In discussing the influence of mountain climate it must not be overlooked that, on account of its rarefaction, it increases the circulatory and cellular activity of the body, and in this way undoubtedly aids the process of nutrition; yet even this influence cannot be denied to physical exercise, although it is brought about in a more direct and positive manner.

While increased chest capacity is, therefore, the great desideratum in preventing and treating con-

¹ Animals and Plants, vol. ii. p. 361.

² Pneumatische Behandlung Respr. u. Circul. Krankheiten, p. 119.

sumption, we have the strongest evidence for believing that it is not so much a question of developing the base of the lungs as it is one of expanding the apices. This is well shown by the fact that the civilized female, although she has, on the whole, much less chest capacity than the male, yet, owing to her increased costal expansion, which has been cultivated through the protracted influence of tight lacing, she is less liable to pulmonary consumption than the male.¹

Pulmonary gymnastics.—Such, then, are the comparative effects of mountain climate and of physical exercise in the treatment of pulmonary consumption, and it now remains to be shown how the effects of the latter can be obtained without resorting to those of the former. Reference has already been made to the fact that muscular effort increases respiratory motion, and in taking up the question of pulmonary gymnastics it is not our purpose to discuss those exercises only which have a direct influence on the chest capacity, but also those which, through the body, have an indirect influence on the pulmonary organs. In all exercises it is very important that none should be carried to the extent of decided fatigue; and that, whenever possible, the body and head should be kept erect, the shoulders thrown back and the lungs thoroughly filled with each breath; that breathing should only take place through the nose; and that sufficient food is taken during the intervals.

Bodily exercise.—The power of walking is common to most people, and its influence on the lungs, as we have seen, is very marked. It is regarded of great service even by those who exclusively advocate the utility of high altitude treatment. Dr. Brehmer, of Görbersdorf, according to Schreiber, was the first to prescribe for consumptives, walking up a gradual ascent. A semi-daily walk of half an hour or an hour, either on the level or on a slight upward grade, is of immense advantage to the invalid. Running, dancing, skipping rope (especially when the rope is swung backward), bowling, etc., are to be highly recommended. Whatever the mode of exercise may be, it must be performed under as little compulsion as possible. One reason why the above-named exercises are so conducive to health consists in the fact that the excitement which they induce is so attractive that the consciousness of muscular effort is lost.

Among the many indoor exercises the following movements are very valuable. The arms, being used as levers, are swung backward as far as possible on a level with the shoulders during each inspiration, and brought together in front on the same level during each expiration. Or the hands are brought together above the head while inspiring, and gradually

brought down alongside the body while expiring. When a deep inspiration is taken in accordance with either plan and held until the arms are gradually moved forward or downward, or even longer, the process of chest expansion is materially enhanced.

Another very effective exercise is to take a deep inspiration, and during expiration only the patient, in a loud voice, will count as long as possible. A male person with a good chest capacity can count up to sixty or seventy, while in a female with ordinary lungs this power is somewhat reduced. Practice of this sort will gradually develop the chest, and the increased ability to count is a measure of the improvement going on within the thorax.

Many of these movements may have their effects greatly enhanced by the use of dumb-bells, chest weights, etc., which are made especially for the purpose.

Compressed and rarefied air.—The breathing of compressed and rarefied air is attracting wide attention at the present time in connection with pulmonary consumption, and is another most useful method whereby the chest capacity can be markedly improved. Nearly four years ago Dr. J. Solis-Cohen advocated the substitution of compressed and rarefied air for a change of climate, in a paper which he read before the American Climatological Association. Here he says:

"In many cases fully as much good can be secured by this treatment as by change of climate, and in a few much more; though, in the vast majority of cases in which change of climate is advisable, it is but a poor substitute."

There can be no doubt that compressed and rarefied air is inadequate when used alone in many cases, but when combined with pulmonary gymnastics and other judicious treatment, we are not sure that the results obtained are inferior to those which are derived from climatic treatment. Recent experience has shown us that when consumptives, who had spent one or two winters on the Rocky Mountains, or on the Pacific Slope, without benefit, were subjected to the use of compressed and rarefied air in association with other pulmonary exercises, such as are above described, their improvement became marked and decided. On the whole, our experience with the air treatment, combined with pulmonary gymnastics, has been very favorable, and we think that this is in consonance with the observations of others. Thus the late Prof. Flint, in his work on *Phthisis*, says (p. 406)

"it does not appear, from the analysis of my cases, that changes of climate have in a marked degree a beneficial influence, as compared with the hygienic measures available at home."

We believe, however, that, as a rule, these measures are applied too infrequently to be of the greatest

¹ Female Dress as a Determining Factor in Pulmonary Consumption. Thomas J. Mays, M.D.: MEDICAL NEWS, January 7, 1888.

service; and, therefore, insist that the pulmonary gymnastics be repeated every hour and a half during the day—the first thing in the morning and the last thing at night—and for from fifteen to twenty minutes at each time; and that the air inhalations be given at first twice, and in the course of two or three weeks gradually increased to four or five times a day, and even oftener. It is very true that this method of treatment involves more labor and perseverance on the part of the patient than is required in a high mountain climate; but then it is a question whether the patient is not more than compensated by the consciousness that a separation from friends is unnecessary, that the heavy expense, the dangers and discomforts incidental to travel are avoided, and, above all, that the improvement which may take place will be persistent and be practically unaffected by a change of residence.

Now, after reviewing the whole subject, we are driven to the conclusion that the line of immunity from consumption, which, in the early history of our country, was located at the Atlantic seaboard, and which has gradually receded westward with the tide of civilization, until at present it has reached the latitude of Colorado, will not stop in its course until it touches the shores of the Pacific; that the question of curing the disease does not depend on the purity or freshness of the air, or upon the number of bacilli which the atmosphere may contain, or upon the amount of oxygen which may be introduced into the body—for these are all secondary considerations; but it is simply a mechanical question, a question as to the best mode of expanding the lungs, and especially the apices of our round-shouldered and flat-chested patients, of removing the infiltrated products already existing, and of enhancing the constitutional resistance.

MEDICAL PROGRESS.

Sarcoma of the Tonsils Removed by External Incision; Recovery.—RICHARDSON, Surgeon to the Massachusetts General Hospital, reports in the *Boston Medical and Surgical Journal* of February 23, 1888, the following interesting case: Mrs. E. H., aged sixty, came from New Brunswick to the Massachusetts General Hospital, April 9, 1886. She said that she had noticed a swelling back of the angle of the jaw on the left side for two years. It was of slow growth, except that it had seemed to increase rather more rapidly for a short time before coming to the hospital. Externally there was only slight deformity, a small swelling being visible under the left ear. Internally the left tonsil was pushed with the pharynx quite to or beyond the middle line. The appearance of the mucous membrane of the pharynx was normal. The growth was indurated and could be felt under the edge of the jaw from the mastoid process half-way to the chin.

April 13, 1887, the tumor was removed by an incision three inches in length along the anterior border of the

sterno-mastoid muscle. A careful dissection was made to get under the parotid, behind which the new growth was found encapsulated. The tumor was lobulated, and had finger-like projections running in various directions. It partly surrounded the styloid process and was attached to it, and from there extended inward to the middle of the pharynx. It was covered in the throat by the mucous membrane alone. A large portion of the tumor was shelled out, and the rest removed by dissection. The portion projecting into the pharynx was thoroughly removed, leaving nothing but the mucous membrane of the pharynx between the fingers when one was in the pharynx and the other in the wound. The tumor was situated in the place of the left tonsil. It was impossible to say either from the location or the microscopic examination whether the growth started in the tonsil or directly adjacent to it. There was no tonsillar structure discovered by the microscopic examination, or at least none reported. In effect, however, it was a tumor occupying the tonsillar region and interfering with deglutition and respiration. The upward growth of the mass in and between the pterygoid plates, and its attachment to the base of the skull made its complete removal very difficult, and the probability of return very great. After the operation there was very little venous oozing from the deep parts, which was controlled by pressure. The wound was closed with silk and drained. Corrosive sublimate irrigation, and iodoform gauze dressings. During the evening the throat became swollen and ecchymosed on the left side, causing slight dyspnoea. The pressure on the outside was therefore removed. The next day the ecchymosis had extended to the frænum of the tongue and down on the neck. There was paralysis of the left lower lip.

Three days after operation she could eat and talk without trouble. Dressings changed to phenyl pad on account of slight suppuration along track of tube.

April 29th: Throat normal in appearance.

May 5th: Discharged.

November 23, 1887: A letter received from the husband states: "She got quite well in three weeks' time, and has not felt any effects of it since, and her health is good." Microscopic examination of the tumor made at the Harvard Medical School was to the effect that it was a round-celled sarcoma.

The Treatment of Cholera Infantum by Oxide of Zinc.—DUPRÉ reports good results from the following formula:

Zinc oxide	grs. 53.
Sodii bicarbon.	grs. 23.
Tinct. rhatan.	gtts. 20.
Syrup. simpl.	3 7½.—M.

Sig. A small teaspoonful every half hour until vomiting and diarrhoea are relieved.—*Revue de Thérapie*, Feb. 15, 1888.

Leiter's Improved Cystoscope.—FENWICK, in the *British Medical Journal* of February 4, 1888, reports that he has used the new instrument successfully. He concludes that the cystoscope will become rapidly popular, and be largely employed in the diagnosis of urinary diseases, may be argued from the simplicity, safety, and success of the instrument; but it is indeed difficult to predict accurately its future rank. It will obviously replace the large

collection of instruments or procedures which attempt the diagnosis of the source of hæmaturia and pyuria; for the ureteral orifices are clearly exposed to view. Its use will tend to limit the size and number of vesical papillomata by enabling us to detect and remove these and other growths in their very infancy. It will, moreover, afford us a clearer insight into the physiological and pathological conditions of the vesical mucous membrane, and allow us to control our clinical observations and speculations by direct visual research.

Calomel Hypodermatically for Syphilis.—NEUMANN, of Vienna, uses successfully:

Calomel,	
Sodii chlorat.	āā 1 part.
Aquæ destill.	10 parts.

The average dose of calomel is $1\frac{1}{2}$ grains; a quantity of the mercurial always remaining in the syringe.

Neumann treated thirty-six cases, in five of whom relapses occurred.

He considers it much inferior to the method by inoculation.—*Deutsche medicinische Wochenschrift*, February 2, 1888.

The Treatment of Chronic Pharyngeal Catarrh.—ENDLER, has used the following gargle with advantage:

Zinci sulphat.	1 part.
Aquæ menth. piperit.	200 parts.

In very sensitive patients a $2\frac{1}{2}$ per cent. solution may be used.—*Berliner klinische Wochenschrift*.

Rectal Alimentation in Children.—JACOBI, in the *Archives of Pediatrics* for February, 1888, advises as follows: The rectum absorbs, but it does not digest. Whatever, therefore, is to enter the circulation through the lower end of the alimentary canal must be dissolved before being injected. Suspension alone does not usually suffice. Water can be introduced in quantities of from twenty-five to one hundred grammes (one to three ounces) every one, two, or three hours, and may thus save life by adding to the contents of the thirsty lymph-ducts and empty bloodvessels. Salts in a mild solution will thus be absorbed. Food must be more or less peptonized before being injected. The peptones mentioned above are readily absorbed when fairly diluted. When too thick they are not absorbed, become putrid, and a source of irritation. Milk ought to be peptonized. The white of eggs becomes absorbent through the addition of chloride of sodium. Kussmaul beats two or three eggs with water, keeps the mixture through twelve hours, and injects it with some starch decoction. The latter is partly changed into dextrin. Fat, when mixed with alcohol, becomes apt to be partly absorbed. Andrew H. Smith recommends the injection of blood. Its soluble albumen, salts and water are readily absorbed: more we ought not to expect. Still, he has observed that the evacuations of the next day contained none of the injected blood. Whatever we do, however, and be the rectum ever so tolerant, not more than one-fourth part of the food required for sustaining life can be obtained by rectal injections, and inanition will follow, though it be greatly delayed. Finally, children are not so favorably situated in regard to nutritious enemata as adults. In these the lengthening of the nozzle of the syringe by means of an

elastic catheter permits of the introduction of a large quantity of liquid; indeed, a pint can be injected, and will be retained. But the great normal length of the sigmoid flexure in the infant and child, which results in its being bent upon itself, prevents the introduction of an instrument to a considerable height. It will bend upon itself; besides, a large amount of contents will be expelled by the feeble or resisting young patient.¹ When a solid instrument is used, it is apt to be felt high up in the abdomen. This is the result of a large portion of the intestine being pushed upward with the tube.

Glycerin and Cocoa Cream.—The *American Druggist* recommends the following formula:

White wax	3xiv.
Spermaceti	3ij.
Cocoa butter	3ix.
Castor oil	3ix.
Oil of benne	3vi.
Melt and mix; then add glycerin	3ij.

Perfume to suit taste.

This makes a nice preparation. Petrolatum is used instead of the oil of benne (sesame oil) by some, and is considered an improvement. Either, however, will do.

A Safe Solution of Nitroglycerin for Medicinal Use.—The *American Druggist* has consulted the Chief of the U. S. Torpedo Station at Newport, regarding the solution of nitroglycerin which may be safely used by physicians; the conclusion is as follows:

It has been repeatedly stated that a 10 per cent. alcoholic solution of nitroglycerin is non-explosive, but, so far as the pharmaceutical public is concerned, this information was not known (or known to but few) to be absolutely reliable. Prof. Munroe expressly states that this statement is correct, such a solution being *absolutely non-explosive*.

Salol in Diarrhœa.—EICHBERG reports in the *Cincinnati Lancet-Clinic* of February 25, 1888, his results in the use of salol, as follows: During the summer I had employed the drug in a number of cases in which diarrhœa was, at one time or another, a prominent symptom. As will be seen, this symptom depended on most diverse conditions, as tubercular ulceration, dysentery, enteritis, or the simple diarrhœa resulting from errors of diet. The report embraces fourteen cases, of which two were cases of dysentery, four of diarrhœa, one of loose bowels accompanying chronic gastritis, four of phthisis with diarrhœa, one of enteritis, one of tertiary syphilis, one of diarrhœa with subacute Bright's disease. An examination of the histories attached to this paper brings out clearly the fact that salol, while of some service in diarrhœa arising from almost any cause, cannot be relied upon with the same firm faith with which we administer the preparation of opium. It seems to act promptly enough, especially in the simple forms of bowel trouble; but the antiseptic effect seems to pass off with some rapidity, so that it often becomes necessary later on to resort to other remedies.

¹ The amount can be somewhat increased by raising the baby by its feet, while the chest and abdomen are supported by a soft pillow, and injecting quite slowly, or, rather, allowing the liquid to flow in from above downward. Gentle manipulation of the abdomen, while the procedure is going on, will aid our purpose.

The weight of this experience, therefore, is rather against than for its use.

At the outset it was always administered alone, without other medicines, so that its effect might be thoroughly tested; and, while I should be willing to give it another trial, I should not express any confident hopes of success for its use. It may be that the quantities given were too small, the average dose being ten grains repeated every four hours (lately this medicine has been administered in maximal doses of from forty to sixty grains at one time), and the result might have been different but for this factor; further experience alone can answer this point.

As compared with naphthalin, the advantage rests entirely with the latter drug, which on account of its comparative insolubility and slow absorption, continues to act along the entire intestinal tract, while salol being decomposed high up in the intestine and absorbed at once, probably does not reach the lower part of the canal in sufficient quantity to be of any service.

Fracture of the Skull; Cerebral (Cortical) Abscess; Drainage; Recovery.—At a recent meeting of the Society of German Physicians of Prague, BAYER reported the case of a workman who sustained, from machinery, a multiple fracture with depression of the left parietal bone. On the supervention of aphasia, facial paralysis, incontinence, and other symptoms of cerebral pressure, Bayer enlarged the original scalp wound, removed bony fragments with hammer and chisel, and found pus oozing through the dura. A cavity as large as an orange was emptied, the wound doused antiseptically, and dressed. Recovery, with restored functions, resulted, the aphasia disappearing last.—*Medicinische - Chirurgische Rundschau*, February 1, 1888.

The Contents of a Surgical Bag for Antisepsis.—EGLI-SINCLAIR, in the *Correspondenz-Blatt für Schweizer Aerzte* of February 1, 1888, states that but a few articles should be carried in a surgeon's bag, and those essential to antisepsis are soap, nail brush, and a preparation of bichloride of mercury, for which he gives the following formula:

Hydrarg. chlor. corros.	3 10.
Aquæ dest.	3 50.
Ammon. chlorat.	3 2.
A vegetable coloring mixture . . .	gr. 1½.

The stopper of the bottle in which this is carried is so arranged that by inverting it it becomes a measure, its contents added to one quart of water making a $\frac{1}{10}$ per cent. solution of sublimate, markedly colored.

The Treatment of Melancholia.—DEFOE has used the following pill with advantage:

Zinc. valerian.,	
Quin. valerian.,	
Ferri valerian.	āā gr. 15.
Mucilag.	q. s.—M.

Ft. pil. 20 in number.

Sig. One pill before the two heavier meals of the day.—*L'Union Médicale*, February 7, 1888.

The Value of Albuminate of Iron.—DUMONT, reviewing the literature of the subject, concludes that albumen

conduces to the absorption of iron, when combined with it.

When administered iron takes up albumen at the expense of the tissues of the body. Albuminate of iron, prepared outside the body, is more readily assimilated than other preparations, occasions less frequently stomach disorders, and produces a rapid increase in the iron compounds of the blood.—*Le Progrès Médical*, February 14, 1888.

Constitutional Effects from Nasal Sprays of Cocaine.—WHISTLER, of the London Throat Hospital, reports that after a long trial limited applications of strong solutions of cocaine in the nose as a local anæsthetic do not, unless very exceptionally, produce general symptoms. Spray solutions of a strength not exceeding even four per cent. are more liable to do so, and should not, as a rule, be applied in greater quantity than ten minims, especially if used by the patient as a topical remedy in acute nasal catarrh; and then this application should not be often repeated. With such restrictions all risk of harm would be avoided. It is easy to foresee, however, that an agent which can exert the primary stimulating effects, which it has been found to do, would appeal to some; and that the unrestrained habit of resorting to nasal sprays of cocaine by patients may lead to deleterious results.—*British Medical Journal*, February 4, 1888.

Peroxide of Hydrogen in Diphtheria.—HATFIELD, of Chicago, in the *Archives of Pediatrics* for February, 1888, reports his experience as follows: During the past few weeks eighteen cases of diphtheria of varying intensity from very grave to light have been treated with hydrogen peroxide, and have given eighteen gratifying recoveries. The number of these cases is yet too small to draw general conclusions, but they have proven to the writer that in hydrogen peroxide we have an agent that is exceedingly valuable as a local disinfectant, when efficiently applied, either by means of a swab or in the form of a spray (two ounces diluted with seven times its bulk of water). Diphtheritic throats treated thus every two hours did not become, even in the worst of the eighteen cases under observation, putrid and offensive, as they invariably do if left to their own devices. Hydrogen peroxide does not act as a solvent upon the diphtheritic membranes, but rather as its disinfectant and antidote, nor does it prevent the formation for, but neutralizes the poison of, the diphtheritic exudate, and thus anticipates many of the sequelæ of this dread disease. The remedy is certainly worthy of more extended trial in malignant diphtheria.

An Incompatible Prescription.—VIGIER, in calling attention to the incompatibility of alkaloids and tannin quotes the following mixture, which resulted in the precipitation of the cocaine:

R.—Cocaine hydrochlorat.	gr. 4.
Syrup. aurant. flor.	3 12½.
Inf. of blackberry leaves	3 25.

In this instance the tannin in the blackberry leaves was the precipitating agent.—*Gazette Hebdomadaire*, January 27, 1888.

Antipyrin in Nocturnal Emissions.—In a recent number of the *Wiener medicinische Blätter*, Dr. Thör, of Bucharest,

gives some particulars as to the effect of antipyrin in cases of nocturnal emissions. Lupulin and camphor had been justly abandoned in such cases. Curschmann ("Functionelle Störungen der männlichen Genitalien," in *Ziemssen's Handbook*, 1878, p. 418) states that the sedative effect of lupulin on the genital organs, in spite of all the recommendations, was not proved. As to camphor, it has, according to his opinion, no better effect. Fürbringer (*Krankheiten der Harn- und Geschlechtsorgane*, 1884, p. 347) is of the same opinion. Zeissl (*Syphilis*, 1882, p. 112) recommends it in the first place, as do Purgsz (*Recept-Taschenbuch für venerische Krankheiten*, 1883, p. 21) and other writers. The effect of nux vomica, arsenic, and atropine is also often uncertain. Among all the remedies hitherto employed, bromide of potassium or bromide of sodium was the most useful. Diday (*La Pratique des Maladies vénériennes*, 1886, p. 538) recommends it to the exclusion of every other drug. Bromide of potassium, from 30 to 75 grains in a glass of water, taken just before going to bed, will, according to his experience, exert a prompt effect and check the pollutions. The prolonged use of the preparations of bromine, however, as is well known, produced an acne-like eruption, and the use of the remedy had, for this reason, often to be discontinued. Dr. Thör states that he has found antipyrin an excellent substitute for the bromides. He gives it in doses of from $7\frac{1}{2}$ to 15 grains, to be taken by the patient a short time before going to bed. In seven cases it had proved very successful, and checked the pollutions. No disagreeable after-effects were observed. In "neuroasthenia sexualis" in the sense of Beard (*Die sexuelle Neuroasthenie*, 1885) antipyrin could also be used with good results; but the dose had in these cases to be sometimes increased from 15 to 30 grains a day.—*British Med. Journal*, February 18, 1888.

A Case of Recovery from Subacute Phthisis.—AULD, in the *Lancet* of February 11, 1888, reports the following interesting case:

The subject of this communication, a woman, aged twenty-three, first came under my observation in the latter part of 1884. Her family history was bad: her mother and a brother had succumbed to lung disease; a sister was lying ill of phthisis, of which she shortly died; and she herself was weak, anæmic, and very dyspeptic.

Notwithstanding these hindrances, she managed, with the aid of arsenic and iron, to fulfil her arduous duties as a teacher, with but slight intermissions, until August, 1886, when increasing weakness, anorexia, and scrofulous inflammation of the right cervical glands laid her aside. An examination of the lungs at this time revealed nothing very definite. In due time a large quantity of characteristic pus was twice abstracted from the neck. Shortly afterward, about Christmas, an intense inflammation attacked the great joint of the thumb of the right hand, leading to sinuses, discharging evidently tubercular pus. After two months this discharge with its attendant phenomena began to disappear, while simultaneously were developed the signs and symptoms of phthisis pulmonalis.

The disease at first threatened a somewhat severe course. The left lung became extensively involved; temperature ranged from 102° to 104° ; cough and expectoration considerable; night sweats profuse; circulation very weak; appetite gone. "Those are the gloomiest

cases of phthisis," says Dr. Sutton, "where there are anæmia and weakness of the pulse." In the middle of May, Bergeon's treatment, then attracting attention, was contemplated, but the patient was considered too weak, and the idea was abandoned. About this time, however, the stomach, which hitherto had resisted all treatment, began to show signs of improvement, and as much suitable food as could be borne was administered. Occasional attacks of sickness were best relieved by a few drops of solution of cocaine, with ire, and the bowels were kept well open. No antiseptics were employed, as I have been invariably disappointed in their use. This improvement steadily increased, accompanied by a very pronounced amelioration of the general symptoms and a very remarkable gain of flesh, till by the middle of July the pyrexia and night sweats had almost entirely ceased. The expectoration nevertheless continued, and there were the physical signs of a vomica in the left apex, whilst in the right moist râles were audible. Considering the case unusual, I communicated with Prof. Hamilton, of Aberdeen, in the month of August, who kindly examined the sputum, and reported that, after a very careful examination, he found that "it contains the tubercle bacillus in considerable abundance." From this period onward the patient was rapidly recovering, and by the end of September the cough and expectoration had nearly ceased, the moist sounds had almost vanished, and vesicular breathing was partially restored over the damaged areas. Early in October menstruation took place for the first time in several years, the discharge being normal as to duration and amount. By the beginning of November the cough had entirely disappeared, no moist râles were audible, menstruation had reappeared, and hitherto this favorable condition is maintained.

Naphthalin in the Intestinal Affections of Children.—WIDOMITZ is quoted by the *Medicinische-Chirurgische Rundschau*, Heft 1, 1888, in reporting the best possible results from the use of naphthalin in children. With the exception of dyspepsia, with vomiting of curdled milk, he found it useful in all intestinal affections in the following mixture:

R.—Naphthalin. pur. . . . gr. 5 to 15.
Muc. gumm. arab.,
Aquæ chamom. āā 3 10.
Ol. menth. piper. gtt. 1.—M.

Sig. To be well shaken. Small teaspoonful every two hours.

Alcoholics may be added when the condition of the patient demands them.

Intestinal Obstruction, with Extra-peritoneal Rupture of the Colon.—At a recent meeting of the Clinical Society of London, BENNETT reported the following case:

The patient was a gentleman advanced in age, who for many years had been habitually constipated. At frequent intervals he was in the habit of using violent purges, without which the bowels never acted. About the middle of September, 1887, the constipation became more obstinate, and attacks of colic, from which the patient had also often suffered for years, were frequent and most severe. He was able, however, to obtain sufficient relief by means of his usual medicines up to October 17th, when a very small hard motion was the

only result of his treatment; the colic, which was very acute, did not completely subside. Gradually the abdomen became distended, and great discomfort ensued in consequence. Further purges were taken without any good effect, although there was a frequent urgent desire to defecate. On the 21st, whilst stooping over a letter, he felt a sudden acute pain passing down into the left loin. Some nausea and faintness followed, from which he soon rallied. He was seen by Mr. Bennett on the 22d. His face was pinched and anxious in aspect. The tongue was brown and dry. The pulse very weak. The belly was much distended, especially on the left side, where the loin bulged very prominently. The rectum was empty, but a hard mass could be felt through its walls, situated in the bowel higher up. The distress from the distention was extreme, and the patient begged, for an operation. As the case was clearly one of obstruction above the sigmoid flexure, a left lumbar colotomy was performed. On opening the abdominal cavity there rushed out before any gut was exposed a large quantity of gas and some liquid feces. On introducing the finger the intestine could be felt in front of a space from which the gas, etc., had come; manipulation of the colon, which could be easily made out, caused the air which remained in it to come through an opening in the gut at the lower part of the space mentioned, just below which could be felt a hard mass in the bowel. The distention at once subsided, but the patient became collapsed and did not rally. The case was regarded as a clear instance of rupture of the colon outside the peritoneum, which explained the mildness of the symptoms following immediately upon the giving way of the gut, which it was assumed took place when the acute pain, mentioned in the account of the case, suddenly seized the patient. In the same way the one-sided character of the abdominal distention and the absence of peritonitis could be accounted for, and a curious corroboration afforded to a statement of the patient, to the effect that attempts at defecation only increased his distress, for it is easy to see how such attempts could force the contents of the colon more and more into the surrounding cellular tissue. The case was considered remarkable for its rarity, and on that account had been thought worthy of record.—*Medical Press*, February 15, 1888.

A Mixture to Replace Milk in Infant Feeding.—TEDESCHI used the following formula in 51 cases of cholera infantum, reporting 44 recoveries, 3 deaths, and the other patients unreported:

White of egg (dried)	. . .	3 3/4.
Oil of sweet almonds	. . .	3 8/4.
Sugar of milk	. . .	3 10.
Carbonate of sodium	. . .	grs. 6.
Chloride of sodium	. . .	grs. 3.
Neutral phosphate of calcium	. . .	grs. 40.
Water	. . .	quart 1.

Of which an emulsion should be made.—*Revue de Thérapeutique*, February 15, 1888.

Antipyrin in Whooping-cough.—GRIFFITH, in the *Therapeutic Gazette* of February 15, 1888, reports fifteen cases of whooping-cough treated by antipyrin after Sonnenberger's method, which he describes as follows, his own results coinciding fully with those of Sonnenberger:

This author had under observation since 1884 two

large epidemics of the disease at Worms; and becoming greatly dissatisfied with the usual methods of treatment, determined to experiment with antipyrin. As a check upon his results he treated some members of a family with this drug, and to others taken sick at the same time he gave quinine or chloral, or the bromides, or some other well-recognized plan of treatment. In other instances he administered antipyrin for a few days, then allowed an interval to pass in which no medicine was given, and finally returned to antipyrin. In a short time it became clear to him that this drug exceeded in value all others which he had yet employed for the malady in question; and he has continued to use it up to the present time—a period of two and a half to three years. He treated about seventy cases of the disease with antipyrin alone; giving it in doses of $\frac{1}{4}$ of a grain in quite young children, up to 7 to 15 grains, for larger children or adults, three times a day; though he believes much larger amounts might be given.

A most important fact is that the best results were obtained when the course of treatment was commenced at the beginning of the disease. Under these circumstances the affection lasted in all but three to five weeks, and was of a mild character, with not more than six or seven slight paroxysms in the twenty-four hours. When it is remembered that an average case has, according to Eichhorst, twenty to thirty paroxysms in a day, while in a severe case the number may even reach one hundred, it will be recognized what an improvement this is. But even when the treatment was instituted at the acme, and with the most unfavorable hygienic surroundings, good results were obtained. The paroxysms often became less violent after the first dose, and after several days occurred less frequently. When the drug was stopped the symptoms grew worse, showing that the effect was actually due to its use. In only five cases did he observe complications, and there was no instance of antipyrin-collapse. It would seem, then, pure cavil to deny that in antipyrin we have a drug capable of influencing whooping-cough most powerfully, especially in the first and second stages, where other means so often fail.

Antipyrin may be given in

R.—Antipyrin.	. . .	3 6.
Aquæ	. . .	3 2.
Syrup. simpl.	. . .	3 1/2.
Tinct. anisi	. . .	ad 3 3.—M.

Sig.—Fifteen grains to the teaspoonful.

For children:

R.—Antipyrin.	. . .	gr. 2 1/2 to 8.
Syrup. aurant. flor.	. . .	3 13 1/2.
Aquæ	. . .	3 25.

may be prescribed.

By rectal injection:

R.—Antipyrin.	. . .	gr. 30.
The yolk of one egg,		
Warm water	. . .	quart 1.

In suppositories:

R.—Antipyrin.	. . .	gr. 8.
Ol. theobrom.	. . .	gr. 60.
Cocain. hydrochlorat.	. . .	gr. 1 1/2.

—*Revue Gén. de Clin. et de Thér.*, February 16, 1888.

THE MEDICAL NEWS.

A WEEKLY JOURNAL
OF MEDICAL SCIENCE.

COMMUNICATIONS are invited from all parts of the world. Original articles contributed exclusively to THE MEDICAL NEWS will be liberally paid for upon publication. When necessary to elucidate the text, illustrations will be furnished without cost to the author. Editor's address, No. 1004 Walnut St., Philadelphia.

SUBSCRIPTION PRICE, INCLUDING POSTAGE,
PER ANNUM, IN ADVANCE \$5.00.
SINGLE COPIES 10 CENTS.

Subscriptions may begin at any date. The safest mode of remittance is by bank check or postal money order, drawn to the order of the undersigned. When neither is accessible, remittances may be made, at the risk of the publishers, by forwarding in registered letters.

Address, LEA BROTHERS & CO.,
Nos. 706 & 708 Sansom Street,
PHILADELPHIA.

SATURDAY, MARCH 10, 1888.

ERYTHROPHLEINUM OR HAYA.

UNDER this rather cumbersome name, a new local anæsthetic has been brought very lately before the profession by the Germans.

In the *Deutsche med. Wochenschrift* of January 19, 1888, is a note on its action by LEWIN, read before the Berliner medicinische Gesellschaft, in which he records the results obtained by dropping a solution of the drug in the eyes of cats, dogs, and rabbits. He found that anæsthesia came on in from fifteen to twenty minutes, and lasted as long as twenty-four hours. When given hypodermatically to the frog, the heart-beats became more rapid, but later were slowed, while, in the warm-blooded animal, weakness asserted itself, the head was drooped, and the creature soon lay down, relaxed and powerless.

The drug is derived from an African plant, the *Erythrophleum judiciale*. Lewin used it in the form of a two-tenths of a one per cent. solution of the active principle, erythrophlein.

In the *Wiener med. Presse* of February 5, 1888, NEVINNY records his experiences, many of the results of Lewin being confirmed by his work. In addition we have the researches of EGASSE, in *Nouveaux Remèdes* of February 8, 1888, in which the period of anæsthesia is stated to last from eight to ten hours.

When Egasse gave the drug hypodermatically to the frog, symptoms other than those already mentioned came on. Convulsions, preceded by persistent dyspnoea, and followed by paralysis, occurred, while loss of reflex activity, and finally of sensibility, were

noted. Pigeons were also convulsed by it. Trials made by LIEBREICH and GOLDSCHMIDT, the results of which have been more recently published in the *Deutsche medicinische Wochenschrift* of February 16th, and the *Centralblatt für klinische Medicin* of February 18, 1888, are virtually identical with those of earlier investigators.

The drug in solution forms a dark, opalescent liquid, of an alkaline reaction and yellow color.

THE TENEMENT-HOUSE PROBLEM.

THE provision of comfortable and healthy homes for the poor of large communities is a problem of no easy solution. As shown by the last census, there is a steady movement of population from the country to the populated centres, and consequently the proportion of the inhabitants who live in the cities is steadily increasing. The urban population is also constantly increased by the arrival of immigrants, many of whom are without any occupation whatsoever. Those willing to work find greater inducements in the country districts, while the improvident and incapable are attracted by the wealth of the cities. This rapid increase of population has had a prejudicial effect upon the dwellings of the poor. The demand for accommodations has increased the value of house property, with the immediate effect of compact building, and overcrowding and its attendant evils. Under these conditions the tenement-house system has become established in most of our cities to meet a necessity which has arisen, and which, to a great extent, has been met before the authorities were prepared to regulate the construction and management of the buildings, and, consequently, tenement-houses have been erected with a reckless disregard of sanitary needs.

The evil has been of rapid growth, but it has not escaped the attention of philanthropists and legislators. The question of providing accommodations for the working classes in large cities has long been a matter of national importance in England, and many acts have been passed, such as the Towns Improvement Clauses Act of 1847, the Metropolitan Buildings Act of 1855, the Sanitary Act of 1866, and the Artisans' and Laborers' Dwelling Act of 1868, which regulate the construction of houses, the manner of occupancy, and provide for the sanitary supervision of the lodgings of the masses. This legislation has no parallel on this side of the Atlantic, because of the comparatively recent growth of the evil, and our limited experience and less extensive

opportunities for studying the tendencies of the housing movement, and developing plans for correcting its bad features. Progress, however, is being made in this direction.

A good idea of the position which the housing movement has attained in our great cities may be obtained by consulting the *Report of the Proceedings of the Fourth Annual Session of the National Convention of the Bureaus of Statistics of Labor in the United States*, held in Trenton, in June of last year.

As might be expected, the tenement-house system has shown its greatest development in New York City. There land is high, and the poor population large—two factors which lead to overcrowding. In order to relieve this condition, the Tenement-house Act of 1867 and subsequent amendments were passed. The earnest efforts of philanthropic citizens and the praiseworthy endeavors of the New York Improved Dwellings Association have done much to further the project for providing better accommodations for the poor. The marked progress in measures of reform noticed in that city within the past few years is largely due to these influences.

In Chicago the same progress does not appear to have been made. The rapid influx of aliens of every nationality and grade of society has overtaxed the supply of proper accommodations. Owing to this deficiency, the mixed population who inhabit the lower quarters are crowded into the rookeries without regard to health or decency.

In Philadelphia the evil of overcrowding has, in a great measure, been prevented by the provision of small houses for the working people. Tenement-houses are few in number, and are inhabited mostly by the idle and improvident. The great popularity and success of building associations and the cheapness of land have made individual houses available, and for these there is a decided preference. Individual enterprise, encouraged by this success, has also assisted in the movement.

The time is opportune for systematic investigation of the condition of the working people, with special reference to their house accommodations. Much useful information on this subject has already been collected by the bureaus of statistics of labor which have been appointed in a number of States. The societies for organizing charity, now widely established, are closely identified with this humanitarian work, and are capable of exerting a powerful influence in elevating this class of society by improving its surroundings. Practical results are to be derived

from an extension of the plan of building associations, which has been so successful.

As the provision of improved dwellings for the working people, by conducing to morality, health, and thrift, is important, aside from its philanthropic objects, as a matter of civic policy and economy, the State has an obligation from which it cannot honorably escape. The State cannot build houses for the poor, but it can regulate their construction and management. Strenuous efforts should, therefore, be made to secure the legislation needed to regulate the construction and government, specially with regard to light, ventilation, number of occupants, size of open spaces, etc., of buildings for the accommodation of this particular class of the community.

DEATH OF PROFESSOR WAGNER.

OUR exchanges announce the death of Ernst Wagner, Professor of Medicine in Leipzig, one of the best known and most esteemed of German physicians. He was born in 1829, and received his medical education in Leipzig and in Vienna under Oppolzer. He early became Wunderlich's assistant at Leipzig, Docent in Pathology, and in 1863 Professor of this branch. From 1868 he held the ambulatory clinic, and succeeded to the Chair of Medicine on the death of Wunderlich. His *Manual of General Pathology*, which was translated a few years ago, made his name very familiar to English students. From 1860 he edited the *Archiv der Heilkunde*, in which he published a long series of valuable pathological and clinical papers. Since its suspension his contributions have enriched the *Deutsches Archiv f. klin. Medicin*, and a few weeks ago we presented our readers with a notice of his paper on "Idiopathic Edema."

Wagner was a model clinician, and as a teacher of medicine he had scarcely an equal in Europe. Devoted to the study of morbid anatomy, and passing daily, as a matter of routine, from the wards to the post-mortem room, he had acquired in the course of a long and varied experience remarkable skill in the diagnosis of disease. He was essentially a practical physician, a wise therapist with an enthusiasm judiciously tempered by an unusually accurate knowledge of the action of drugs in the different phases of disease. He was a good example of the type of man which has made German medicine famous. "Ohne Hast aber ohne Rast," day by day, in the ward, the laboratory, and the class-

room, the work was done with a painstaking care, which increasing years did not diminish. His death at a comparatively early age is a serious loss to the profession and a grievous one to the University of Leipzig.

EVER since the first appearance of epidemic cerebro-spinal meningitis in Philadelphia, in 1863, there have been sporadic cases reported, and, if we can rely upon the city mortality returns, not a year has passed without the occurrence of thirty to eighty deaths from this cause; while in the years 1864, 1865, 1867, and 1872-1873, the cases increased to epidemic proportions. Making every allowance for errors in diagnosis, the persistence of the disease seems well established, and as Dr. Stillé remarks, in his exhaustive article in the *System of Medicine* by American writers, "it would appear that the disease continues to linger in this locality longer than has been reported of any other place of which information has been obtained." Within the past few months there has been an increase in the number of cases, and deaths from the disease have occurred in Germantown, Chestnut Hill, and the Falls of Schuylkill. At a meeting of the Neurological Society last week, Dr. Mills referred to a number of cases which he had seen.

It is extremely desirable that an accurate record be kept of the cases as they occur, and of the local conditions under which the disease develops, as the careful study of small, limited epidemics may throw light on some of the obscure problems relating to the etiology of this most serious malady.

THE preliminary programme of the First Congress of American Physicians and Surgeons has just been issued. The Congress will be held in Washington on the evenings of September 18th, 19th, and 20th of this year.

On the first evening a discussion on "Intestinal Obstruction in its Medical and Surgical Relations," will be opened by Dr. Reginald H. Fitz, of Boston, and Dr. Nicholas Senn, of Milwaukee.

On September 19th, a discussion on "Cerebral Localization in its Practical Relations," will be opened by Dr. Charles K. Mills, of Philadelphia, and Dr. Roswell Park, of Buffalo.

On September 20th, the President, Dr. John S. Billings, will deliver an address, which will be followed by a general reception in the United States Army Medical Museum Building.

The special societies forming the Congress will

hold their separate meetings during the mornings and afternoons of the above days. The Association of American Physicians has issued a preliminary programme for its meeting, which will be found in another column.

THE Seventeenth Congress of the German Surgical Society will be held in Berlin, from the 4th to the 7th of April, 1888.

The meeting will be preceded by a Memorial Celebration in honor of the deceased President von Langenbeck, held on the evening of April 3d, in the hall of the Philharmonic Society. Mozart's Requiem will be rendered, and a Memorial Address will be delivered by von Bergmann.

THE Third Congress of French Surgeons will convene in Paris, March 12-17, 1888, under the Presidency of Verneuil.

THE Obstetrical and Gynecological Society of Vienna has been recently organized under the presidency of Professor Breisky.

THE medical friends of Dr. D. Hayes Agnew will celebrate the fiftieth anniversary of his entrance into the profession by entertaining him at dinner on April 6th. Later in the month the medical students of the University of Pennsylvania will give a reception at the College in commemoration of his Jubilee.

THE Alumni of Bellevue Hospital Medical College have erected a tablet in the Carnegie Laboratory to the memory of the late Austin Flint, M.D., which will be formally unveiled this evening, and Dr. LeRoy M. Yale will make the presentation address.

DR. ALLIS will deliver the Mütter course of lectures on the "Surgical Pathology of the Articulations," on Tuesday and Friday evenings, at eight o'clock, beginning March 6th and ending April 6th, at the Hall of the College of Physicians of Philadelphia. The course is open to the Fellows of the College and the medical profession.

At the recently held Commencements the degree of M.D. was conferred on graduates in medicine as follows:

University of the City of New York, 163; Rush Medical College, Chicago, 132; University of Buffalo, 44; Meharry Medical College, Nashville, 18.

SOCIETY PROCEEDINGS.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, March 1, 1888.

THE PRESIDENT, A. JACOBI, M.D., IN THE CHAIR.

DR. EDWARD B. BRONSON read a paper on the question
SHOULD WE TREAT SYPHILIS DURING THE PRIMARY
STAGE?

The poison of syphilis, he said, having once been effectually inoculated, are there any means at our command by which we may hope to prevent the impending constitutional effects? By preventive treatment is not necessarily meant abortive treatment; but it embraces all measures tending in any degree to abridge or mitigate the subsequent course of infection, and its effects on the constitution. The utility of any such measures will depend, first, on what the nature or essential quality of syphilitic infection is; and second, on the special status of this infection during the primary stage of the disease.

But of syphilitic infection we have no positive knowledge, either as to what constitutes its essential element, or what is its mode of progress; so that until more light is shed upon this unsolved problem we must make the most of what there is. The question in the form in which it immediately presents itself, may be stated as follows: Are the indications thus far afforded by our imperfect knowledge of syphilitic infection such as to render any attempt at preventive treatment in the primary stage of the disease unavailing and absolutely hopeless, as is maintained by many?

There are two modes of approaching this question: one theoretical, and the other empirical. In considering the indications furnished by the pathological conditions in syphilis, the first inquiry is naturally directed to the essential cause of the disease. Here all is as yet hypothetical, and the most that we can do is to accept provisionally that view by which most is explained. No theory explains the observed phenomena of syphilitic infection so satisfactorily as that which attributes them to the presence and growth in the tissues of certain specific microorganisms. Thus far the microbe of syphilis has not been positively determined; but even were it fully established that syphilis is a parasitic disease, due to known forms of microorganisms which could be cultivated outside of the body, it is by no means certain that the answer to the question of the utility of preventive treatment would be affirmative. Judging from experience in such diseases as tuberculosis and contagious anthrax, in which the specific germ has been identified, the success of antiseptic treatment is far from assured.

But the conditions in syphilitic infection are peculiar. Not only does the inoculation usually take place at a single point where it is freely accessible to manipulative procedures, but there are indications in the slow and gradual progress of the disease that general infection does not take place immediately, but that there is a temporary sojourn of the virus in the region where first implanted. After the virus has been inoculated there ensues a period of apparent quiescence of several weeks' duration, when, little by little, there begins the formation at the inoculated point of a neoplastic, indurated growth, which essentially consists of inflammatory granulation tissue, answering

in its general characters to an irritative lesion provoked by the presence of a foreign and disturbing element. Simultaneously with this "initial lesion" of syphilis, or shortly following its first appearance, the nearest lymphatic glands become swollen and indurated in consequence of a cellular growth of a corresponding character to that of the "initial lesion." These local manifestations remain for a considerable period the sole evidences of disease; till finally, at the expiration of this period, with more or less sudden onset, the symptoms of general or constitutional syphilis make their appearance. The most satisfactory explanation of this course of events is that when first implanted in the tissues the virus does not immediately pass into the general circulation, or what portion does is insignificant; that, mainly at least, it is at first confined to the spot where the future chancre is to develop; that here finding a favorable soil it grows and slowly increases till its intrusive presence becomes a source of offence to the tissue harboring it, and gradually inflammatory reaction results. From this source of generation the virus contaminates sooner or later the nearest lymphatic glands, which in turn become other sources of supply, until, finally, from these multiple foci the whole organism becomes infected. According to this view the main route to the general circulation is by way of the lymphatics, and through the *receptaculum chyli*.

To this Auspitz has objected, that within the initial lesion the lymphatics show comparatively little change, while the bloodvessels are commonly implicated, and often occluded; and that between the chancre and the *receptaculum chyli* the chain of indurated glands has not yet been shown to be continuous and complete. But that the lymphatics in the primary induration are but slightly affected may, perhaps, be the very reason why their absorbent function is not disturbed. The objection that the lymphatic chain is not continuous seems to be based mainly upon the pathological specimens in the *Musée de Lourcine*, described by Fournier, which were taken from cases in which it is not stated how long the disease had lasted when the patients died.

Thus far the pathological conditions seem to imply that the disease advances by way of the lymphatics in a manner analogous to the diffusion of the malignant tumors. Whether, however, in syphilis the contamination advances by such regular approaches from one gland to another that any definite interval can be said to exist between the infection of one gland and that of the next in succession is very doubtful. In the indications presented up to this point we find nothing incompatible with the position that during the primary period of syphilis the disease is localized within the vicinity of the point of inoculation; but the view is current among many syphilographers that the manifestations of this period are always anticipated by infection of the general system. According to this position, directly upon its inoculation, the syphilitic virus passes into the general circulation, and the incubation pertains not to any *matrices morbi* in the vicinity of the point of inoculation, but to something in the blood; whilst the initial lesion is the first tangible sign of the blood disease, reflected in some arbitrary and inexplicable manner to the spot where the virus effected its original entrance.

Two facts are alleged concerning the primary stage of syphilis, upon which the theory of the symptomatic character of the initial lesion is based: (1) that an individual

who has been inoculated with syphilis has always acquired immunity from any subsequent inoculation of the syphilitic virus before the chancre develops; and (2) that extirpation of the chancre does not prevent the regular course of the disease. That there is a period within a certain time after inoculation when the tissues are not refractory to a second implantation of the virus is shown by the fact that when a second or a third inoculation takes place within a short period from the first exposure, successive and multiple chancres result. The immunity, therefore, is not established at once. But it is claimed that after the chancre has once formed constitutional infection is an accomplished fact, and immunity is then complete. In verifying this point, however, the length of time it requires for the chancre to develop should be taken into consideration. The second inoculation might have its effects forestalled and prevented by constitutional infection intervening before the completion of its incubation. While it is true that, as a general rule, auto- and re-inoculation in the primary stage fail to produce any perceptible effect, a sufficient number of cases have been reported to show that the rule is not invariable, and that if immunity be the test of general saturation with the syphilitic poison, we must conclude that the chancre is not positive evidence of constitutional disease, and hence cannot be its symptom.

It may be conceded, however, that in the majority of cases immunity does precede what is known as secondary syphilis. It seems not improbable that a slight degree of general infection may exist in primary syphilis, which, though sufficient to confer immunity upon the individual from any second instalment of the virus, is not insufficient to cause general disease. A notable illustration of such an immunity is shown in the case of the mother of a syphilitic child, who, notwithstanding she may at no time present any outward sign of syphilitic infection, is immune from contagion, and suckles her child with impunity. Moreover, there is nothing in the view proposed that does not accord with the results of preventive inoculation in other infectious diseases.

The results of ectrotic treatment have thus far afforded but little encouragement. It is affirmed to be the rule in infectious diseases generally, which take their origin from a local point of inoculation, that it is impossible to prevent general infection. In syphilis, however, all the obvious signs point to a much slower development than in the others. Certain results reported by Sigmund, of Vienna, would seem to be clearly in favor of abortive cauterization immediately after syphilitic inoculation. Of 57 patients who presented themselves with abrasions after suspicious connection, 35 were cauterized, and of these only 10 developed syphilis. Of the 22 not interfered with, 11 became syphilitic. There were also indications that the earlier the cauterization was practised the better the chance of its success. Thus, of the 35 cases cauterized, in 24 this was done from the first to the third day following the suspicious exposure, and of these only 3 became syphilitic. Of 11 cauterized from the fifth to the tenth day, 7 became syphilitic; and this would tend to show that after the fourth day the chances are against the success of the operation.

Most discouraging is the well-known case reported by Berkeley Hill, in which a patient with a torn frænum, who was cauterized twelve hours after a sexual encounter, returned a month later with the cicatrix indurated, and

afterwards developed constitutional syphilis. A possible loop-hole of escape may be found in the supposition that the patient had exposed himself to the disease during his month of absence. Still, there is evidence enough to show that the virus of syphilis passes beyond the reach of caustics within a short period after its inoculation. *A fortiori*, by the time the chancre is developed, it should be still further removed. But though inaccessible to caustics, it has been hoped that the infected part might be included in a free incision, and while the results reported have shown a most exasperating diversity, the fact remains that in a considerable percentage of the cases the occurrence of constitutional syphilis was apparently prevented.

It cannot be said, however, that the results of excision make conclusively either for or against the hypothesis of the local character of primary syphilis. As a manifestation of primary syphilis, the chancre is hardly of more importance than the indolent adenopathy. That the indurated lymphatic glands in the vicinity of the initial lesion are contributory sources of infection, there is little reason to doubt; and were the initial lesion removed they would, doubtless, still suffice to contaminate the system.

While, then, it cannot be affirmed of any period in the course of the malady that the disease is strictly limited to the site of the initial lesion, the proposition that syphilis is essentially a local disease, remains still uncontroverted. As to the hope of preventive interference afforded by the views now presented, it was intimated at the outset that the answer to the question might be equally valid whether based upon theoretical or empirical grounds. Empirically, the answer is so ambiguous that we have been forced to have recourse to theory; and here we find the omens not unpropitious. An infection whose limits are circumscribed, and more or less definable, is a very different thing to one that has already taken possession of the entire organism. During the forty days sojourn of the enemy in its outlying camps, while the insidious infection is slowly advancing its outposts from the periphery to the vital centres, are there no other resources than in excision of the initial lesion, which is but one of the multiple foci of infection, or this, together with extirpation of a few inguinal glands, and in constitutional treatment?

Excision of the initial lesion may have accomplished something. Certainly, when practicable, it is a perfectly rational, safe, and proper surgical procedure. It is removing an annoying symptom, and a possible source of danger to others. In a few instances, excision of inguinal glands, together with the initial lesion, has been reported, but thus far without noteworthy result; though it is by all means desirable that experiments in this direction should be continued. Inspired by the success of Pasteur in his preventive inoculations for charbon, it occurred to Diday that by inoculating a patient recently infected with syphilis with an attenuated syphilitic virus, the course of the disease might be prevented. This idea has never been put in practice, so far as known, but the field of investigation it suggests is an attractive one.

As to the value of medicinal antisiphilic treatment during the primary stage, there is a diversity of opinion. While it is pretty generally conceded that the employment of mercury in this stage tends to retard the appearance of constitutional symptoms, the apprehension has been expressed by some that in repressing the outward

manifestations of infection we are risking a more serious implication of internal organs. There is an inconsistency, however, in the idea that for the month or so of primary syphilis that same remedy is to be shunned, because of dangerous after-effects, whose continued employment during the years of the constitutional disease is accepted without demur. In how many instances do we administer mercury internally in syphilis for strictly localized lesions, where the general system shows no sign of the disease, and with unquestionable effect. There is hardly any one but admits that when the chancre is formidable in size, or slow in yielding to local measures, a mercurial course will hasten its involution. It must be granted though, that it is taking a very roundabout road to reach the result.

Supposing that mercury does act as an antiseptic in syphilis, it is very questionable whether it could have any effect upon germs circulating in the blood; and it is much more probable that the effect would be exerted where both the germs and the mercurial would be apt to accumulate, as at such places of elimination as the skin, or where deposited in the tissues. That mercury does exert a most decided influence upon the local manifestations of syphilis when topically applied we have undoubted evidence; then why should not this potent influence be brought to bear directly upon those local lesions which are also dangerous foci of infection in the primary period of the disease? It is only recently that the so-called "regional treatment" of primary syphilis has received much attention; nor have any remarkable results as yet been reported. Dr. Bronson said that his own experience has been mainly confined to certain experimental attempts as to the feasibility of the method. It was, therefore, almost purely on theoretical grounds that he recommended this treatment.

The scheme consists in the local use of antisymphilitics by a method designed to bring the remedy in direct communication with the whole of the affected region in primary syphilis, including more particularly the initial lesion and the diseased glands. As commonly employed, the regional treatment has consisted chiefly in the use of mercurial hypodermatics beneath the initial lesion (except this lesion be excised), and into the mass of the indurated lymphatic glands. But the plan may be easily extended. The field of operation may include all of that district whose lymphatic vessels tend in their course toward the ganglia which are the seat of the disease. When the initial lesion is situated upon the genitals the area most available would consist of the external genitals, the perineum, and the upper inner and anterior aspect of the thighs, together with the inguinal region and lower part of the abdomen. By multiple small injections and by inunctions within this area the remedy may be introduced little by little into the lymphatics, with the hope of its being conveyed in sufficient amount to the diseased glands to destroy the infectious germs or to retard their multiplication.

The only agent thus far employed for this purpose is mercury. No substitute for it has been found, and the question is how to introduce this irritating agent into the affected region with the least amount of offence to the normal tissues, but in sufficient quantity to exert its antidotal or antiseptic influence upon the germs of the disease. Where hypodermatics are used it is not necessary that the drug be injected in large quantity in any one

spot, nor in a concentrated form. A twentieth of a grain, or less, of the bichloride introduced in separate injections of not over a hundredth of a grain each would afford a more reasonable hope of effectively reaching the seat of the disease than a much larger dose given by the mouth. Dr. Bronson has used a solution of 1 part in 400 or 500 of mucilage and water, with a small quantity of common salt added. Of this, four or five injections are made of four or five minims each, distributed over different parts of the cutaneous area above described. The discomfort caused by the injections is insignificant, especially if care is taken to avoid any escape of the fluid into the corium. The number and frequency of the injections must depend on circumstances and on individual judgment. Into the skin of the abdomen and thighs they may be repeated daily, or every second or third day. Together with these injections, but more especially in situations where the latter are less admissible, as in the perineum and over the penis and scrotum, inunctions also may be employed; and for this purpose a mercurial soap will be found preferable to the mercurial ointment. Many modifications of the plan thus outlined will doubtless suggest themselves. It may be said that regional treatment is also constitutional treatment, as in a degree it doubtless is; but it is something more, and surely it is something better than doing nothing at all.

DR. EDWARD L. KEYES said that Dr. Bronson apparently advocated the proposed method of treatment purely on theoretical grounds, and he regretted that there had not been some practical results to show. It seemed to him, since the complete excision of the initial lesion did not materially modify the subsequent course of the disease, that when the latter has once shown itself the infection is already beyond the reach of any local treatment. His impression had always been that the disease becomes general from the time it is acquired, before the appearance of the primary lesion, which occurs only after a period of incubation. He believed, therefore, that the virus at once got beyond the lymphatic chain. A case was then related in which, notwithstanding the complete excision within twelve or fifteen hours after a suspicious connection, of a small livid papule on the back of the penis which resulted from the latter, the most marked constitutional symptoms subsequently occurred. In this instance there was no further trouble whatever about the local lesion, and not the slightest enlargement of the inguinal glands. Dr. Keyes also referred to Berkeley Hill's and other cases as corroborative of the assumption that the infection is already beyond the lymphatic glands before the appearance of the initial lesion of the disease. Whether washing the parts immediately after suspicious contact would have in any case the effect of preventing infection of the system he could not say.

He went on to say that he hoped Dr. Bronson would follow up the investigation; but the objection to local treatment with the only agent that is of any service afterward, before the diagnosis of syphilis is established, consisted in the fact that such a course is always likely to throw more or less discord into the life of the patient. He also related the case of a student of Bellevue, who, contrary to his advice, commenced a mercurial course in consequence of a slight abrasion of the prepuce. At the end of six months, no evidence of syphilis having in the meanwhile presented itself (with the exception that a

single one of the post-cervical glands became enlarged), he gave it up. Within two years, however, he became the subject of hemiplegia, and eventually died of syphilitic brain disease. As a rule, he believed it is much better to delay treatment until the diagnosis is confirmed by the appearance of secondary symptoms. Otherwise a patient might be treated for syphilis who did not have the disease at all; and he had known of one instance in which a gentleman who never had the disease took bichloride of mercury for twelve years in consequence of a mistake of this kind.

DR. ROBERT W. TAYLOR said that he agreed with Dr. Bronson that the history of the disease and the analogic evidence afforded by certain other infectious diseases showed that syphilis is at first a local affection. The hyperplasia caused by the virus inoculated resulted in this initial lesion; but a very extended experience had convinced him that neither excision nor cauterization would prevent constitutional infection. Dr. Bronson's idea was certainly a most laudable one; but there is already enough evidence to show that syphilis cannot be exterminated at the radicles. Bloodvessels are frequently found running up to the chancre, and the new-growth cells germinate indefinitely; so that he did not believe that a single case of true syphilis had ever been aborted. He thought that Dr. Bronson was wrong in regard to the mother of a syphilitic infant. It is well known that Collis's law has been generally accepted; but while it is true that a woman can have a syphilitic child and yet not take the disease herself, it is a fact, as shown by Caspari, that she may contract the disease in the regular way.

In discussing inguinal treatment in primary syphilis, Dr. Taylor went on to say we must remember that the circumstances are entirely different from what they are later on. We then have to deal with a nascent disease which exhibits remarkable activity, and hence the most powerful remedies are required to destroy the new growths that are forming. Larger doses of mercury would be necessary to do any good; but we cannot employ the agent in the degree of concentration required, and it is, moreover, impossible to use the bichloride hypodermatically about the legs without producing abscesses.

He agreed with Dr. Keyes that it is most rational to begin the treatment with the secondary stage of the disease. By so doing a more orderly sequence is secured, and the moral effect upon the patient is also much greater when the secondary eruption appears to become at once tractable, a result which in many instances cannot otherwise be attained. There are, however, certain conditions which call for early treatment, and among them are the following:

First. When the chancre is so large as to impede urination; when there is phagedena; and when the chancre is situated about the eyes, mouth, or fingers, where it is liable to give rise to the infection of others.

Second. Where there are social reasons that the true nature of the trouble should be concealed, if possible.

Third. In the case of syphilo-maniacs.

As far as we can judge, mercury acts by causing fatty degeneration of the syphilitic cells, and as these cells do not become matured until the constitutional symptoms of the disease appear, it is highly irrational to use this agent until the secondary stage is reached, since syphilis does

not run the tractable course in those who are treated early as in those from whom mercury is withheld until after the primary stage.

DR. BRONSON said that as to the charge that his views were founded on mere speculation, he held that it was necessary that the subject should be approached in a speculative spirit. What he had endeavored to do was to point out the indications which calls for early treatment. If the disease was primarily constitutional, there were no such indications. But the fact that the disease was primarily local did not imply that excision of the initial lesion should abort it. In his argument he had expressly discarded excision as a means of abortion, because by the time the chancre appeared the disease had advanced to the lymphatics. In order to abort it it would be necessary that all the foci of infection should be eliminated, and this has been proved to be impossible. Believing, however, that the disease was still local, he thought it was the duty of the surgeon to treat it regionally and thus counteract the infection as far as possible. The objections that had been urged to this course seemed to him altogether trivial, and he felt confident that any patient would prefer to take the chances of this early treatment rather than do nothing until the fully developed secondary symptoms presented themselves. Although he had no results to offer, he could abundantly testify from his own experience that the method is entirely feasible. If the mercury is employed hypodermatically in the small doses advocated in the paper no abscesses result, and there is not even thickening. The treatment, he contended, is thoroughly rational, although the investigation as to its utility is attended with many difficulties.

THE PRESIDENT spoke of the difficulties that must necessarily be encountered in such an investigation. Among these were the following: (1) The length of time before the secondary stage appears is uncertain; (2) we do not know what is the amount or kind of poison taken into the system; (3) we do not know the nature of the lymph-vessels which are to carry the virus. The disease is comparable to diphtheria. When the latter is local in character it may remain local. It remains local longer in situations where there are few lymph-vessels, as on the tonsils, and becomes constitutional at once where there are many, as about the posterior nares. The constitutional infection does not always take place to the same extent, because the lymph vessels vary in different subjects. Thus, in the fetus and in young infants it is easy to inject these vessels, while, as the individual grows older, this becomes more difficult. But even in adults there is a great difference as regards the character of the lymphatics.

Another difficulty that presents itself is found in the fact that syphilitic infection sometimes takes place through the bloodvessels alone, as in the case referred to by Dr. Keyes. The same is true of diphtheria, and some of the very worst cases of this disease are those in which there is no glandular swelling whatever. The poison goes directly into the blood, and in these cases the discharges are apt to be more or less bloody. It is, therefore, very difficult to select the cases in an investigation like that proposed by Dr. Bronson.

A paper on *The Treatment of Flat Foot*, by Mr. Bernard Roth, F.R.C.S.E., was read by Dr. V. P. Gibney.

A resolution was then passed endorsing

THE PETITION OF THE GEORGIA STATE MEDICAL SOCIETY

to Congress to place medicines, medical and surgical apparatus, and everything used in the diagnosis and treatment of disease, on the free list.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

Stated Meeting, February 22, 1888.

THE VICE-PRESIDENT, W. W. KEEN, M.D.,
IN THE CHAIR.

The Vice-President, DR. W. W. KEEN, reported

A CASE OF MACEWEN'S OPERATION FOR THE RADICAL CURE OF HERNIA, FOLLOWED BY A SPEEDY RETURN OF THE HERNIA.

Macewen's operation has been so generally successful that it is the more important to report the failure of this case, as the immediate result of the operation seemed to promise a cure; but the hernia quickly reappeared.

The patient is a man thirty-two years of age, a fresco painter, but for some time at work dredging oysters. When seventeen years old he first noticed a right oblique inguinal hernia, for which he wore a truss for a year and then laid it aside. The hernia remained cured for thirteen years. A year ago, while at work dredging for oysters, the hernia returned, and descended into the upper scrotum.

He entered St. Mary's Hospital on the sixth of January, 1888, on account of the distress and inability to pursue his occupation. The operation was done on the 13th; on the fifth day I removed five of the nine external stitches, and on the twelfth day the remaining four. There was no pus at any time. The highest temperature was 100.2° F. He had then two chills, the first on the fifteenth day, his temperature rising to 103°; but as there was no evidence of suppuration, as it yielded promptly to quinine and arsenic, and as his occupation had exposed him to miasmatic infection, we were justified in attributing this to malaria.

He was kept in bed for twenty-nine days—*i. e.*, until February 11th. At this time I examined him, and found the hernia perfectly cured. He was then allowed to get up, a spica and compress being applied. Examining him yesterday (February 21), I found the hernia had returned, with, however, one gain—at the time of the operation the external ring was very large, requiring four double sutures. Now it will only admit the point of the index finger. Moreover, he is exceedingly comfortable, so much so that I doubt if I can persuade him to undergo another operation.

An incision was made over the site of the hernia to its lowest point in the scrotum. With the blunt end of the scissors and the finger, the sac was then dissected from the surrounding parts, care being taken to leave no attachment to the spermatic cord. The index finger was then passed within the abdominal wall, and the peritoneum was dissected for half an inch around the circumference of the internal ring. A moderately stout ligature of chromicized catgut was tied to the lower part of the sac, and a series of stitches taken from the lower portion of the sac to its mouth. This stitch, by means

of Dr. Ellwood Wilson's curved trachelorrhaphy needle, was then passed through the abdominal wall from within outward at a point half an inch above and external to the internal ring, the skin being drawn upward and outward so as to allow the stitch to emerge through the abdominal muscular wall, but not through the skin. Then traction was made on this stitch, thus puckering up the sac, which latter was drawn through the ring and rested against the inner surface of the abdominal wall to become adherent there, closing the hernial opening by a firm pad. The stitch was then carefully secured in place. The external ring was then closed by four double stitches of chromic catgut, passed from side to side.

Dr. Keen was extremely careful in denuding the inner surface of the abdominal wall to get a large raw surface at the internal ring, so as to gain firm union at that point; and the patient was kept on his back for four weeks; yet it gave way a few days after letting him up.

DR. DULLES asked if any appliance other than the bandage was used after the patient began to go about. The hernia looked as if it had been down some time, and not as if it had descended recently. He thought it would be best not to trust solely to the strength of the tissues for a little while after these operations. There is a point in the mechanics of hernia which he has noticed, and which he has not seen described—and that is, that a patient with an inguinal hernia usually has a pendulous abdomen. He was curious to see if this spare patient of Dr. Keen's would follow the rule, and he did. He believed that the best appliance is not one which makes pressure over the ring alone, but one which corrects this abdominal outline, and changes the direction of the thrust of the intestines from one at right angles to the plane of the hernial opening to one parallel to its plane. Such an abdominal supporter as women wear would answer the purpose, and he believed that it would add to the chances of permanent success after operations for the radical cure of hernia.

DR. KEEN remarked that, of the cause of failure, he could only say that, apparently, the reparative powers did not suffice to obtain adhesion of the sac to the abdominal wall. The usual practice of those who have had a large experience with these operations has been not to use any truss. As to the exact time when the hernia reappeared he could not say. When he examined him, February 15th, four days after letting him up, it was not there. He did not see him again until February 21st, when he found that it had reappeared. He should not wait long before repeating the operation.

CINCINNATI ACADEMY OF MEDICINE.

Stated Meeting, February 6, 1888.

DR. CHRISTOPHER read a paper on

SUMMER COMPLAINT.

(See THE MEDICAL NEWS, March 3, page 229.)

DR. CLEVELAND said that it has been generally supposed that dentition plays no rôle in the production of summer complaint. He believed that it does exercise some influence, and that the growing teeth, pressing upon the gums, produce an irritation which reflexly has a tendency to bring about diarrhoea and other troubles. He knew that this influence was exaggerated by the laity, but he was inclined to believe that it has some foundation

in fact, and is an element that cannot be ignored. The subject of summer complaint embraces a number of conditions. Although it is termed thus, yet the disease is not necessarily confined to the summer. It occurs so frequently in summer, because the conditions which favor its development, heat and moisture necessary for decomposition, are most abundant in this season of the year. If the subject be analyzed, it will resolve itself into a question of digestion or assimilation, and that the troubles treated in books under the headings of indigestion, simple diarrhoea, gastro-enteritis, entero-colitis, summer complaint, etc., are one and the same thing, assuming different phases under different conditions. The condition of constipation ought to be considered under the same head.

A child fed on artificial foods will present certain symptoms. After it is fed for a period upon such articles it will, as a rule, grow ill. It begins to lose its plumpness, grows flabby, the secretions of the digestive tract are increased, it has diarrhoea and vomiting, is uneasy, has colicky pains, and hence cries. This continues, and a physician is called. What has caused the attack? The infant has taken starchy food, which it is not able to digest. The albuminous portion is digested in the stomach, but the remainder, passing into the duodenum, remains undigested, the pancreatic juice being insufficient to perform the task. This mass, then, acts as an irritant. It either sours, putrefaction occurs, or there takes place simply an exaggeration of the natural fecal discharges. He concurred in the treatment suggested.

DR. ROCKFORD thought that it would be well to bear in mind, in the discussion of this paper, what the essayist meant by "summer complaint." Under this term he embraced all the ordinary diarrhoeal and catarrhal diseases, mild and severe, occurring among children during the hot months. The chief cause of these diseases the essayist believed to be some form of ptomaine poisoning, but mentioned no other manner in which bacteria may be related to them. This, then, brings us to the consideration of the question, What part do bacteria play in the causation of these diseases? Do they simply act by producing ptomaines, or are they in some other way related to the cause of them? We must remember that the bacteria of disease are few when compared with the bacteria of health, which are many, and everywhere distributed. The non-pathogenic forms are truly the bacteria of health, because they are absolutely necessary to the health and vitality of both the animal and vegetable kingdoms. The growth and development of bacteria in organic material cause the process known as fermentation and putrefaction. In this process the complex organic compounds are broken up into a great many new and simpler compounds, many of which are useful as food to the vegetable kingdom, but which by this process are rendered unwholesome and irritating to the infant stomach, even if there were no poisonous ptomaines produced by the process.

It is also a curious fact, that some bacteria in their growth produce soluble ferments, which act on starch, changing it into glucose, and on albumens, changing them into peptones. The fermentation caused by this class of bacteria is, therefore, of a very different kind from that just spoken of, in that they transform the non-assimilable starchy and albuminous food-materials into materials readily assimilated in the intestinal canal. The

one process renders the food unfit for digestion, the other prepares it for assimilation. Yet the two processes are called by the same name—fermentation.

Now it is altogether probable that the bacteria which produce soluble ferments, and which, for this reason, play such a part in the digestive process at all ages, are the chief factors in infant digestion. For at this time of life the glands, which afterward take part in the digestive process, are not yet developed, and have a very feeble working capacity. With this explanation we come back to the question, What part do bacteria play in the causation of summer complaint?

1st. The disease may be caused by ptomaines, as Dr. Christopher has ably depicted.

2d. The disease may be caused by any of the many indigestible and irritating materials formed in the process of fermentation and putrefaction.

3d. The disease may be caused by anything that interferes with the growth and development of the bacteria, which are so necessary to infant digestion.

DR. CHRISTOPHER said that he had used the term summer complaint so as to avoid, as far as possible, in the name any theory as to the pathology of the affection; he had used it in preference to the name summer diarrhoea, because he had grouped certain cases of constipation under the same term.

The classification of bacteria into pathogenic and non-pathogenic is somewhat misleading, as some, at least of the so-called non-pathogenic bacteria, are capable of producing disease in man indirectly. Particularly is this true in the case of the *Clostridium butyricum*, whose action in the production of tyrotoxin, one of the substances capable of producing summer diarrhoea, was mentioned in the paper. Fermentation is invariably the result of the growth of cells. In some of the fermentations the organisms possibly act directly, in others certainly indirectly, as when the immediate cause of the fermentation is a soluble substance secreted by the cell. In all cases of summer complaint there is, undoubtedly, some one or more of the forms of abnormal fermentation occurring in the intestine. The object of the paper was to make a general classification of these forms of intestinal fermentation, and to point out a means of recognizing them clinically, as a rational basis of proper handling of the cases. As to which of the particular products of these fermentations we are to attribute the symptoms of the disease, we cannot with absolute certainty say. But so far as we know, the only products of fermentations, generally speaking, which are capable of producing physiological effects through the nervous system, are alkaloidal substances, the so-called ptomaines. An exception might be made in the case of butyric acid, which is distinctly poisonous. It may be mentioned, in this connection, that probably all of the organic substances which are capable of producing catharsis, or the opposite condition, owe their efficacy to the alkaloids or glucosides which they contain, and which act through the nervous system. If, however, there be produced in the intestinal fermentations of summer complaints, substances other than ptomaines, which act through the nervous system in the production of the symptoms of the disease, the position taken in the paper is not affected.

As to the capability of mere local irritants, such as undigested food, to produce diarrhoea, he is somewhat sceptical. He has, it is true, recognized an acid form of

fermentation in summer complaint, and ascribed the acid fermentation to the decomposition of sugars and starches, but it does not follow necessarily, although probably, that the acid products themselves, acting as local irritants, produce the disease, and this because no starchy food, which we possess, is entirely free from albuminous constituents. Nor is this fact at variance with the clinical observation that patients suffering from this form of diarrhoea should be put on albuminous diet exclusively; because the change from a vegetable to an animal albuminoid is quite sufficient to stop any fermentation in which the former may have been concerned.

The statement made by one of the speakers to the effect that the disease may be caused by anything which interferes with the growth and development of the bacteria which are so necessary to infant digestion, can neither be affirmed nor denied, because our knowledge of the part played in ordinary digestion by bacteria in the intestinal tract is not yet sufficiently developed. It seems hardly probable, however, that the infant is left so entirely to the mercy of chance bacteria as the last-mentioned speaker seemed to imply. The cases referred to by one of the speakers as due to insolation are probably only cases of foudroyant summer complaint, the so-called true cholera infantum, and not the same disease as insolation in adults.

He concluded by saying that the classification which he had presented had been developed by the study of a large number of cases, including the careful examination of many stools. He had found it a good working rule, and could recommend it to others.

CORRESPONDENCE.

VACCINE QUILLS SHOULD NOT BE SCRAPED.

To the Editor of THE MEDICAL NEWS,

SIR: I beg the privilege of space in your esteemed journal in which to state an observation of my own derived from using vaccine virus deposited upon quills.

Last spring we had an epidemic of smallpox on this coast, and during that time there was much vaccinating done. Many of our vaccinations failed, and in quite a number of my own cases where failure ensued I observed a peculiar growth, or excrescence, spring from the point of inoculation, which, at the time, I could not explain. At first I thought it might be keloid, but it was more fungoid in character. It would usually attain the size of a large pea, become wart-like in appearance, but very vascular at the base, easily scraped off with little pain, and would then bleed very freely. These growths only came in those cases where the virus failed to "take;" and in cases where I revaccinated at the same spot, by scraping off the growth, the tumor was destroyed, and the ordinary scar was left after the vaccine ulcer healed.

This winter we have again had an outbreak of smallpox, and in vaccinating have again observed this growth follow in some cases under the same circumstances as those of last spring. I determined to solve the mystery to my satisfaction; and herewith give the secret according to my conclusions.

We have had so many failures with our vaccinations that I had been in the habit of scraping the moistened quills with a knife-blade, thinking, in that way, to obtain

all the virus, and then depositing the scrapings upon the denuded surface. After observing the growths, and considering the exciting causes that were suggested to my mind, and the probability of each, it occurred to me that I had been doing "quill-grafting," in the same manner that skin-grafting is done to-day, by depositing the quill-cells upon the living tissue-cells under the most favorable circumstances to insure their growth, reproduction, and multiplication. We try to obtain the freshest virus, and no doubt many of the quills used at the vaccine farms are freshly plucked, and therefore the component cells, at the point of the quill where the virus is deposited, retain their life property of reproducing themselves under favorable circumstances for several weeks afterward.

I am positive that this is the correct solution of the matter. My partner, who used the same quills, but who was not so anxious to obtain all the virus from his quills, and therefore did not scrape them, had no like growths appear among his cases. There is no doubt that to-day there are hundreds of doctors throughout the land who practise scraping the quill when vaccinating, and I offer them the benefit of the lesson derived from my own error, and advise them to discontinue the practice. The growth is of no consequence, except the mental disturbance it is likely to cause a patient or family, who may be suspicious of any irregular occurrence following vaccination; and if scraping the quill should be much practised among physicians, it is likely to be a cause of increasing the popular prejudice against vaccination.

Very truly yours,

A. J. COMSTOCK, M.D.

SAN BUENAVENTURA, CAL., Feb. 22, 1888.

NEWS ITEMS.

The Third Annual Meeting of the Association of American Physicians will be held in Washington, D. C., on the mornings and afternoons of September 18, 19, and 20, 1888. The following preliminary programme has been issued:

The President's Inaugural Address, by William H. Draper, M.D., of New York.

Discussions on "The Relation between Trophic Lesions and Diseases of the Nervous System," will be opened by Drs. Edward C. Seguin, of New York, and William T. Councilman, of Baltimore.

And on "The Absolute and Relative Value of the Presence of Albumen and Casts, and of Renal Inadequacy, in the Diagnosis and Prognosis of Diseases of the Kidney," by Drs. Robert T. Edes, of Washington, and Edward G. Janeway, of New York.

The following papers will be read:

The Cardiac Changes in Chronic Bright's Disease, by Alfred L. Loomis, M.D., of New York.

The Relation between Chronic Interstitial Nephritis and Angina Pectoris, by Samuel C. Chew, M.D., of Baltimore.

Disturbances of the Heart-rhythm with Reference to their Causation and their Value in Diagnosis, by Gustavus Baumgarten, M.D., of St. Louis.

Fatty Heart, by Frederick Forcheimer, M.D., of Cincinnati.

The Cardiac Lesions producing the Presystolic Murmur, by Frank Donaldson, M.D., of Baltimore.

The Treatment of Valvular Affections of the Heart, by J. M. Da Costa, M.D., of Philadelphia.

Clinical Investigation in the Treatment of Cardiac Disease, by James K. Thacher, M.D., of New Haven.

Causal Therapeutics in the Infectious Diseases, by James C. Wilson, M.D., of Philadelphia.

Management of the Stage of Convalescence in Typhoid Fever, by James H. Hutchinson, M.D., of Philadelphia.

The Geographical Differences in Typhoid Fever in the United States, by W. W. Johnston, M.D., of Washington.

The Pathology of the Thymus Gland, by Abraham Jacobi, M.D., of New York.

Gastric Neurasthenia, by George M. Garland, M.D., of Boston.

Neuritis, by Francis T. Miles, M.D., of Baltimore.

The New Caesarean Section, by William T. Lusk, M.D., of New York.

Is Hystero-epilepsy Better Treated by Medical or Surgical Means? by William M. Polk, M.D., of New York.

Demonstrations in Pathological Anatomy will be made by Drs. T. Mitchell Prudden, of New York, and William H. Welch, of Baltimore.

A National Bureau of Health.—The *Sanitary News* writes that the cheering information comes from Washington that the House Committee on Commerce will report favorably upon a bill providing for the establishment of a Bureau of Health in the Department of the Interior. This is the movement led by ex-President Sternberg, of the American Public Health Association, and if it has the support of Surgeon-General Hamilton, of the Marine-Hospital Service, is likely to become a law. It is earnestly to be hoped that all factions will unite on some measure. Everyone admits the necessity, but everyone will not give way in personal prejudice before national danger.

A Course of Lectures on Domestic Economy and Sanitation.—Domestic economy in most of our homes too often is a term wrongly applied to domestic wastefulness. A movement is on foot in connection with the extensive sanitarium at Battle Creek, Mich., which will give a correct idea of domestic economy to those who take advantage of it. The necessity for scientific instruction in many of the domestic arts, has led the authorities at the sanitarium to organize a school of domestic economy, which will be opened about the middle of March. The course of instruction will continue twenty-five weeks, and will include daily lectures, recitations, demonstration lessons, and practical drills in the following subjects: Scientific cookery, laundrying, dress-making, general housework, household hygiene, including ventilation, heating, disinfection, renovation of sick rooms, sanitary care of the house, purification of water, detection of food adulteration, etc., personal hygiene and the hygienic care of children. Keeping of accounts, and other necessary accomplishments will be taught. Certain qualifications are to be required, and a fee is charged, but arrangements can be made by which the fee can be paid in labor without interfering with the course of study. The incompetent servant girls who afflict all our large cities, and the equally as incompetent wives, would be considerably decreased by the general establishment by large institutions of a semi-public character, of such schools.—*Sanitary News*.

The Chair of Anatomy at Vienna.—The chair of Anatomy, vacant by the death of Professor v. Langer, has been offered to Professor His, of Leipsic.

Pasteur's Treatment at Barcelona.—A recent number of the *Lancet* states that the municipal authorities at Barcelona, as we announced last year, have established a municipal micro-biological laboratory, mainly with the view of enabling persons bitten by rabid animals to obtain the advantages of Pasteur's method of treatment. To the post of director of the laboratory Dr. Jaime Ferrán, whose name is well known as having proposed and carried out a system of anti-cholera inoculations, was appointed, and he has been assisted by Drs. Pauli, Commenge, and Lluch. A report of the work done from May 10 to Dec. 10, 1887, has just been published in *La Independencia Médica*. Altogether eighty-five persons have been subjected to the treatment. Of these twenty-five had been bitten by animals that were certainly rabid, fifteen by those which had been pronounced rabid by medical men or veterinary surgeons, and thirty-seven by animals which were believed to be rabid, but whose condition could not be verified by professional men. The remaining eight persons had not been bitten at all, but submitted to the process in order to prove its harmlessness. The duration of the treatment was more than three months in forty-three of the cases, more than forty days in sixty-three, and less than that in twenty-two cases. Not a single case, either of those who had been bitten or of those who had not, proved fatal. The wounds were caused by seventy-two dogs, two cats, and two mules. Two of them were not bites, but dissection wounds with instruments tainted with the virus of rabies. At first Dr. Ferrán carried out the inoculations of his rabbits according to Pasteur's method—i. e., by trephining. Recently, however, he has adopted a new, and, as he believes, an improved, plan—viz., the injection of a single drop of the emulsion of the medulla containing the virus into the anterior chamber of the rabbit's eye. This produces exactly the same effects in about the same time as the trephining method.

The Limitation of the Number of Druggists in Germany.—In the *Pharmaceutical Era* for January, 1888, Pharmacist Duffield describes the system of the German Government in limiting the establishment of drug shops, and fixing the prices of licenses as follows:

From statistics we find that in very small villages in the agricultural districts, it is considered more prudent to fix the price of a new district for the first few years at about 6000 marks—\$1500. For manufacturing regions, where of necessity there will be a greater daily income, the premium must be at least 8000 marks.

In towns of 3000 to 15,000 souls the price for such a district would range from 10,000 to 12,000 marks.

In cities of 50,000 inhabitants, 13,000 to 20,000 marks. For large cities the lowest price for sale of district would be 30,000 marks, and these prices rise in proportion to the size of districts, and the cities they are in—as in larger cities the profits are greater and the amount of sales very much larger than in smaller towns. Should it be determined to divide a district so as to allow another apothecary to come, the Government officer must give thorough investigation and produce authentic figures that the increase of population, etc., has been so great that

the first apothecary will not be injured in making the division. Apothecaries cannot have any other business, and especially are forbidden the sale of wine and beer (Schankegeschäft).

The "wein- und bieregeschäft" is an entirely distinct business.

Two *Apotheke* under the one man's name are rarely permitted, and a *Hausapotheke* in a physician's house is not permitted unless he is five kilometres distant from the nearest apothecary shop.

In a place of 20,000 inhabitants, the exact part of the town in which the apothecary shop is to be placed is specified.

Whoever receives the grant for an apothecary district cannot sell or leave it earlier than ten years, except he becomes unfitted to do business.

There are prescribed ordinances under which an apothecary's grant can be sold or closed.

Lay Fictions About Medicine.—Under this title the *Medical Press* describes some current traditions regarding medical matters, and describes as follows a peculiar belief regarding operations upon the eye:

Perhaps the strangest fictions exist in regard to operations upon the organ of vision. Remarkable as it may seem, at least half of the number of non-professional persons who happen to be told that a friend has had an eye removed, will inquire as to the amount of sight which has been left after the operation. But even this fiction is as nothing in comparison with the almost universal one, that an eye can be taken out, carefully washed, put straight, and returned to the mutilated orbit without the slightest detriment, as part of a surgeon's day's work. One of the astounding features of these and other similar fictions is, that quite irrespective of the general enlightenment which characterizes this century, they still seem to display a vigor of existence which common sense is apparently powerless to disperse. However, as far as the medical profession is concerned, the only regret is that surgeons have not the power to take eyes out, and carry them about for a period within the refined corners of the waistcoat-pocket preparatory to transferring them at a convenient time to the tenantless orbits of various patients. It is quite possible if an operation of this nature were practicable a high premium would at once be placed upon the eyes of certain animals, and glass eyes would fall into disuse, and cease to be employed as artificial substitutes for "stopping a hole to keep the cold away."

Vaccination and Erysipelas.—A report by Dr. Airy, on three cases of so-called fatal erysipelas after vaccination, will help in forming a judgment of the sort of foundation on which the fears of an outcome of this character rest. The three children were vaccinated by three different practitioners. In the first case the erysipelas set in too late for it to be possible for vaccination to have had anything to do with causing it; in the second case the child was surrounded with erysipelas in the surgery where it was brought to be vaccinated; in the third case no definite source of erysipelatous infection could be discovered, but the child lived in a low-lying place, close to swampy and unhealthy meadows. Thus, none of these cases were traceable to the vaccine lymph; and its innocence is attested by the fact that other children were vaccinated

with the same lymph without the occurrence of untoward symptoms. The question arises next as to the degree of danger of erysipelas entering the vaccination-scratch, or the wound left by a ruptured vesicle, the same as it might any other wound. According to statistics presented by Dr. Buchanan, the proportion of such accidents that occurred in England and Wales during 1883 was 51 infants dying of septic disease out of 763,192 vaccinated. —*Popular Science Monthly*, March, 1888.

The Physiology of Ventriloquism.—At a recent meeting of the Physiological Society, Berlin, Herr Meyer, from Hamburg, discussed the nature of ventriloquism, and combated the opinion, so widely spread among physiologists, that it consists in speaking while inspiring, and without the cavity of the mouth acting in any way as a resonator; on the contrary, ventriloquists speak while expiring, and do move their mouths. An extended series of laryngoscopic observations on the speaker, who has practised ventriloquism for many years, showed that in ventriloquizing the vocal opening of the larynx is shortened as it is when producing the falsetto, and that the soft palate is pressed back and that the uvula becomes invisible. Everybody who naturally possesses a high voice can easily learn to ventriloquise. One most important factor in the deception of the listeners is the contrast between the loud, full, and metallic tone in which the question is asked and the answer which immediately follows in a high and gentle falsetto. Sibilants and the high / should be as far as possible avoided. The speaker then gave a series of extremely successful examples of ventriloquism, which did not presuppose any particular training, and showed that it is never accompanied by any special action of the abdominal muscles. Prof. Gad has made some experiments on Herr Meyer, and by graphically recording the variations in pressure of the air, has shown that the curve obtained when a certain sentence is spoken in the ordinary way is in all respects identical with the one which is described when the same sentence is spoken ventriloquially. In the latter case the volume of air expired was considerably less than during normal speech; in one particular case it amounted to only 900 c.c., whereas during normal speech the volume expired was 1300 c.c. Dr. Benda expressed his idea that when ventriloquizing, the Eustachian tubes are open, and the cavity of the tympanum, together with the tympanic membrane, is set into simultaneous vibration. He had not been able to detect any resonance of the tympanic membrane in Herr Meyer; but he believes that this explanation of the curiously veiled tones emitted is not thereby invalidated, since they closely resemble the tones produced by speaking while yawning, in which case the Eustachian tubes are certainly open and the tympanic cavity acts as a resonator. —*Scientific American*, Feb. 18, 1888.

Sewage Farming in France.—The project to utilize the sewage of Paris in the lower part of the forest of St. Germain has been ratified by the French Chamber notwithstanding the opposition of the residents in that district, who fail to see, in the more prolific growth of cabbages and other edible vegetables, an adequate compensation for the almost inevitable inconveniences of so odoriferous a neighbor. Victor Hugo's remarks on the wastefulness of the present system of sewage disposal

in his well-known work *Les Miserables*, will not have been merely interesting if they have aided in bringing public opinion round to his views. It was urged that over £1,000,000 were lost annually to agriculture by not consigning sewage to its natural destination—the soil, but all such estimates must be taken *cum grano*, seeing that in this country, where the system has been carried out on a very large scale, and on the most scientific principles, the authorities consider themselves very fortunate if they succeed in covering their expenses—a result indeed which is very seldom attained. If the scheme prove satisfactory, and there is no reason why, with certain restrictions, it should not do so, the present system of scavenging will be abolished in Paris in favor of the principle of “everything to the sewer.”—*Medical Press*.

Lime Salts in the Food and Teeth.—MILLER, of Berlin, has been making experiments to determine how far changes can be produced in teeth by the presence or absence of lime salts in food. His method is to extract a tooth from a healthy dog, and then to feed the animal upon food containing but little lime salts for three months; then to remove a second tooth, and change the food to one containing an excess of salts. After four months of this treatment another tooth is extracted. The author has found that an appreciable loss of lime salts occurs in the first stage, which amounts in one case to more than one per cent., and that the proportion of lime salts rises again to normal during the second stage.—*Popular Science Monthly*, March, 1888.

Loreta's Operation on the Stomach.—Some two months ago Mr. Treves performed this operation at the London Hospital upon a man suffering from fibrous stricture of the pylorus. At the time of the operation the patient was very much reduced by pain and constant vomiting, and had been for some time unable to take food by the mouth. The abdomen and stomach were opened, and through the incision made in the viscus the pylorus was dilated with the fingers. The man made a rapid recovery, and has not vomited since the operation. He can now take any food well. The case will be shown at the next meeting of the Clinical Society.

Typhoid Infection in Sewer Air.—The *Sanitary News* of February 18, 1888, writes that a most important contribution to the study of the methods in which disease may be communicated may be looked for very soon from Professor Victor C. Vaughan, director of the Michigan Laboratory of Hygiene. Heretofore there has been lacking positive evidence as to the communication of contagious diseases through the sewer air entering the house atmosphere through defects in the house-drainage system. It has been pretty generally believed that disease could be so communicated, but positive instances of its being communicated in that manner have been unproved. The most that sanitarians have been willing to claim has been that sewer-air was improper atmosphere to breathe and might be the vehicle of germs of contagious diseases. No one has before proved that it has absolutely been known to be the vehicle by which contagious disease has been spread. This is to-day a proved fact. An epidemic of typhoid fever has been prevailing at the Michigan State Prison at Jackson. A committee from the State

Board of Health was invited to make an investigation of the causes of the epidemic. The water-supply and milk-supply were first ruled out as possible vehicles by negative evidence. It was then thought that the defective condition of the sewers, combined with the insufficient supply of fresh air, was the most probable cause of the epidemic. The cases nearly all were from a distinct portion of the prison, and investigation proved that the soil pipe running from the hospital, and the house-drain into which it entered, were defective, and were pouring sewer air into that portion of the prison. Professor Vaughan took to his laboratory a sample of the air from within the soil-pipe, and has found within it the specific germ of typhoid fever. This fact explains the epidemic. The first case may have been introduced into the prison in a new prisoner, but once the germs of the disease were introduced into the soil-pipe with the undisinfected fecal discharges of the patient, the infected soil-pipe and sewer spread it freely throughout the portion of the prison into which they were pouring their contaminated atmosphere. The cause and effect are logically connected. The committee from the State Board of Health recommended that before there is any digging into the sewers or drains, there should be thorough disinfection by pouring into the drainage system, half a barrel of solution of bichloride of mercury, one part of chloride to four hundred of water; that, after such disinfection, the soil-pipe leading from the hospital be taken up and reconstructed under the direction of a competent sanitary engineer.

Nuns as Nurses in Paris.—A Paris physician, writing to the *Medical Press*, states that, contrary to the common belief, the change in the system of nursing which was inaugurated some years ago by the Paris Municipal Council was one which, with every respect to the pious and devoted sisterhood, was urgently required, and this for two sets of reasons. First of all, the nursing, as such, was far from satisfactory, as anyone who has frequented the French hospitals can testify. The work was mainly done, not by the sisters, who merely superintended, but by more or less incompetent and untrustworthy *infirmiers* and *infirmieres* who could not justly be charged with making up in zeal what they lacked in discretion.

In the second place the position occupied by the sisterhood in the hospital was based on such special privileges, rights, claims, and demands that they formed a perfect *imperium in imperio*, to the detriment of efficiency, order, and obedience. Moreover, they were incapacitated from assisting at confinements and various other categories of cases. One would have thought that our own experience of a system in which the nursing staff could beard the medical officer, and even openly decline to accede to his wishes, would have been sufficient to explain the zeal with which their services have been dispensed with. With several years' experience as an assiduous student in Parisian hospitals and elsewhere, in which the nursing was done by *religieuses*, I must confess that I cannot speak with favor of them, either as nurses or as respects their attitude toward the medical staff. I say this with some regret, seeing that personally I entertain the greatest respect both for their devotion and their abnegation.

Bread as a Disinfectant for Walls.—ESMARCH concludes a series of extended experiments on the disinfection of rooms, with the conclusion that were he relying on these

experiments, to recommend a method of disinfecting walls, he should give the preference before all others to rubbing with bread. The wall is thereby most certainly cleansed from all germs; the procedure is absolutely without danger, and makes possible an immediate occupation of the room, which can scarcely be considered justifiable after disinfection with corrosive sublimate; and, finally, it is easy and inexpensive even for untrained people to carry out. He believes also that in this way the danger of subsequent infection from the wall is reduced to a minimum, so far as can be judged from the standpoint of knowledge we now possess. — *Medical Chronicle*, February, 1888.

Female Hospital Assistants in India.—The *Indian Medical Gazette* for December, 1887, states that the Government of Bengal has issued a resolution regarding the admission of female students into the Campbell Medical School for the purpose of undergoing the course of medical instruction and training laid down for Civil Hospital Assistants. It is hoped that these students will "practise in the larger villages of the mofussil under the same conditions and among the same class of the people as hospital assistants." The standard of general knowledge required before admission has been fixed at a lower level than for male students. This is a very doubtful concession to what the Director of Public Instruction calls "the want of education among women in Bengal." They are to undergo in every respect the same course of medical instruction as the male students; but special arrangements are made for their accommodation in the lecture and dissecting-rooms, for their lodging and conveyance, and ten scholarships of Rs. seven a month tenable three years have been assigned to them.

The scheme is confessedly experimental. It remains to be seen whether young native women educated in mixed classes in this and other schools will be acceptable visitors of zenanas.

Death in "Blizzards" due to Asphyxia.—MARKHAM writes to the *Journal of the American Medical Association* of February 18, 1888, stating that there is an amount of evidence and a combination of circumstances sufficient to show that the greater number of the several hundreds who lost their lives in the recent great "blizzard" of the Northwest perished from asphyxia and not by freezing. Many of the bodies, when found, were in the position of grasping or clutching at their own necks or throats. Indoor witnesses describe the atmosphere as having an appearance of density and darkness, similar to that stated by divers as existing when submerged with their armor in deep water. Many that escaped describe their peril as being from loss of breath or suffocation.

The terrific hurricane force of the wind, loaded with falling snow—the latter being by a fall of temperature, whose degree and suddenness have no recorded parallel, converted into dry crystals, and thence by the gale ground to a fine, dry ice-dust—these conditions produced a state of the atmosphere as unfit for respiration and aëration of the blood as is water for warm-blooded animal life.

Anton De Bary, a celebrated botanist and biologist of the University of Strassburg, died recently of carcinoma of the face, aged fifty-seven.

NOTES AND QUERIES.

JOSEF HOFMANN'S PULSE.

To the Editor of THE MEDICAL NEWS,

SIR: Your issue of the 25th ult. contains an able editorial on the health of the celebrated young pianist, Josef Hofmann. It may be of interest to your readers to know, in connection with the other symptoms referred to, that his temperature, taken in the mouth on the evening of the examination referred to in your editorial was a shade above 100° F., and that his pulse at the same time was 100 in the minute, and presented some irregularity in its rate, rhythm, and tension. This observation has been repeatedly made by myself, as his medical attendant before and since his examination by the medical commission from whose report the above facts are gathered. Very respectfully,

SIMON BARUCH, M.D.

NEW YORK, March 1, 1888.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT U. S. ARMY, FROM FEBRUARY 28 TO MARCH 5, 1888.

FISHER, W. W., *First Lieutenant and Assistant Surgeon*.—Sick leave extended one month on surgeon's certificate of disability.—S. O. 50, A. G. O., March 2, 1888.

SHILLOCK, PAUL, *First Lieutenant and Assistant Surgeon*.—(Recently appointed.) Ordered for duty at Fort Assiniboine, Montana.—S. O. 50, A. G. O., March 2, 1888.

APPOINTMENT.

SHILLOCK, PAUL.—To be Assistant Surgeon, with the rank of First Lieutenant, January 31, 1888.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE U. S. NAVY FOR THE WEEK ENDING MARCH 3, 1888.

HEYL, T. C., *Surgeon*.—Orders to the Receiving Ship "St. Louis" revoked.

WHITE, C. H., *Surgeon*.—Present duty continued to October 1, 1888.

STREETS, T. H., *Surgeon*.—Ordered to the Receiving Ship "St. Louis."

DRENNAN, M. C., *Surgeon*.—Ordered to the Receiving Ship "Vermont."

BRUSH, G. R., *Surgeon*.—Detached from the Receiving Ship "Vermont," and ordered to the "Pensacola."

MEANS, VICTOR C. B., *Past Assistant Surgeon*.—Detached from the Naval Hospital, New York, and ordered to the "Pensacola."

HOCHLING, A. A., *Medical Inspector*.—Detached from the "Pensacola," and wait orders.

HARMON, G. E. H., *Passed Assistant Surgeon*.—Detached from the "Pensacola," and wait orders.

EDGAR, J. M., *Passed Assistant Surgeon*.—Detached from the "Pensacola," and waiting orders.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE U. S. MARINE-HOSPITAL SERVICE, FOR THE WEEK ENDING MARCH 3, 1888.

STONER, G. W., *Surgeon*.—Detailed as Chairman of the Board for the Physical Examination of Officers and Candidates, Revenue Marine Service, February 28, 1888.

URQUHART, F. M., *Passed Assistant Surgeon*.—Detailed as Recorder of the Board for the Physical Examination of Officers and Candidates, Revenue Marine Service, February 28, 1888.

KALLOCH, P. C., *Passed Assistant Surgeon*.—Relieved from duty at Pittsburg, Pa.; ordered to Marine Hospital, San Francisco, Cal., March 2, 1888.

CARRINGTON, P. M., *Passed Assistant Surgeon*.—Relieved from duty at Marine Hospital, San Francisco, Cal.; ordered to assume charge of service at Pittsburg, Pa., March 2, 1888.

KINYOUN, J. J., *Assistant Surgeon*.—Granted leave of absence for twenty days, February 28, 1888.